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GEOGRAPHY OF NEW YORK

Harmon B. Niver

NEW YORK EDITION



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GEOGRAPHY

OF

NEW YORK STATE

BY

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AND OTHER SCHOOL TEXTS

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BY HARMON B. NIVER

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HINDS, HAYDEN & ELDREDGE, Inc.
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ANALYSIS OF THE TEXT

I. Location. (1) In United States and in state group; in latitude and longitude. (2) Boundaries—natural and mathematical; bordering states and country.

II. Size and Population. (1) Compare with other neighboring states. (2) Compute number of persons to square mile. What states are more thickly settled than New York? (3) Parts of state most thickly settled.

III. Surface. (1) Highlands—Adirondack region, Catskill region, Highlands of the Hudson, Allegheny Plateau. (2) Lowlands—Hudson Valley, Champlain Valley, Mohawk Valley, Lake Plains, minor river valleys.

IV. Rivers and River Systems. (1) Divides between river basins. (2) In regard to each river studied, discuss sources, direction, tributaries, extent of basin, navigation, water power, and the cities and towns along the banks. (3) River scenery, such as cataracts, cascades, gorges, caves, grottoes, and natural bridges.

V. Lakes. Ontario, Erie, Champlain, Finger Lakes, Mountain Lakes, and other lakes not in groups. (1) Location, size, depth, inlets and outlets. (2) Uses—fisheries, navigation, ice, and as pleasure resorts.

VI. Islands. Long Island, Staten Island, Thousand Islands, and others in lakes and rivers. (1) Location and surrounding waters. (2) Population, size, and uses.

VII. Climate. (1) Effect of latitude on different natural divisions. (2) Effect of elevation and of neighboring waters. (3) Rain and snow in each natural division. (4) Maritime and inland climates.

VIII. Natural Resources. (1) Forests—past and present distribution and value; uses; state forest preserves; industries dependent upon forests. (2) Minerals—kinds and distribution; methods of mining and quarrying; uses of each mineral studied. (3) Fisheries—location; methods; men employed and value of. (4) Soil—kinds and location; determines farming industries.

IX. Industries. (1) Farming—crops, fruit-growing, dairying, truck farming, grazing, poultry, special crops. (2) Lumbering—kinds, methods, handling, and marketing. (3) Fisheries. (4) Mining and quarrying. (5) Manufacturing—location of industries, source of raw materials, number of establishments and laborers, wages paid, value of products, shipping and selling.

X. Transportation. (1) Rivers, lakes, and canals. (2) Steam and electric railroads and highways. (3) Ocean traffic.

XI. Cities and Towns. (1) Cities of the Hudson Valley. (2) Cities of the Central Valley. (3) Cities of northern New York. (4) Cities of the plateau region.

XII. People and History. (1) The Dutch in the New World; the West India Company. (2) The Dutch explorers and colonists; Dutch governors, Patroons. (3) English occupation and its results. (4) Immigrants from Germany, France, and New England. (5) New York in the Revolution. (6) The War of 1812. (7) Historic places and landmarks.

XIII. Government. (1) The Legislative Department. (2) The Executive Department. (3) The courts. (4) The government of cities, counties, townships, and villages.

XIV. Education. (1) Rural schools and their supervision. (2) High schools and academies. (3) Normal schools. (4) Colleges, universities, and professional schools. (5) Agricultural, industrial, and vocational schools. (6) Board of Regents and Commissioner of Education. (7) Examining boards and licenses.

STUDY OF THE RELIEF MAP. (1) In what two sections do you find the highest mountains? (The darker shading indicates the higher elevation.) (2) What river valley lies between these two high mountain regions? (3) Trace the Hudson River from its source to its mouth; trace the course of the Mohawk River. (4) Trace the dividing ridge between the Mohawk Valley and the Lake Plain. (5) Trace the dividing ridge of the Allegheny Plateau from the summits of the Catskill Mountains to the Genesee River. What river systems are separated by this ridge? (6) Trace the streams which unite to form the Delaware River; the Susquehanna River. (7) Trace the watershed between the valley of the Genesee River and the Lake Plain. (8) What is the only river that flows entirely across New York? (9) In what direction do the outlets of the Finger Lakes flow? (10) In what two parts of New York do you find the most islands? (11) In what two sections do you find the most lakes? (12) What streams are fed by the lakes of the Adirondack Mountains? (13) Judging from this map, in what parts of the state do you think it would be best to preserve the forests? (14) What part of the state belongs to the valley of Lake Champlain? Trace the divide between the Champlain Valley and the St. Lawrence and Hudson valleys.

STUDY OF THE POLITICAL MAP. (1) Find the location of New York on a map of the United States. (2) Draw a triangle by connecting New York City, Rouses Point, and the southwestern corner of Chautauque County; on the basis of this triangle complete the outline map of the state. (This map should be made about twice as large as the one given in this book.) (3) On the outline map draw the bordering waters of the state—three rivers and three lakes. (4) On the outline map fill in the boundaries of counties with their names and seats of government. (Notice which counties have lakes or streams as boundaries; draw all these in and write their names.) (5) From the Relief Map draw on your outline map the principal rivers of the state and write their names. (6) Locate carefully the following cities: Albany, New York, Buffalo, Rochester, Syracuse, Utica, and all other places the names of which you meet in studying the text. (7) Draw meridians and parallels on your outline map, at intervals of one degree. (8) What is the approximate latitude and longitude of New York? Of Albany? Of Rouses Point? (9) Find the length of the longest straight line that can be drawn on your map. Measure the distance from New York to Buffalo by way of Albany. (10) Find the breadth of the state between Oswego and the Pennsylvania boundary. (11) Find the longest north and south line that can be drawn on the map; the longest east and west line.

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GEOGRAPHY OF NEW YORK STATE

I. INTRODUCTORY

New York, the Empire State. Although New York is twenty-ninth in area among the states, it ranks first in population, manufactures, commerce, and wealth. It owes this high rank chiefly to the splendid harbor at New York City, which has attracted more than half the total foreign commerce of the country. It owes much also to the Hudson River, the Erie Canal, and the various railroad systems, which have



The Arms of the State of New York.

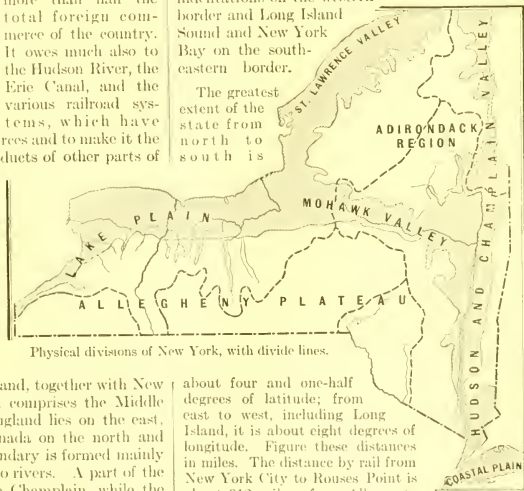
helped to develop its resources and to make it the highway by which the products of other parts of the country are brought to the seaboard. The rich natural resources of the state and the abounding energy and industry of its people have contributed much toward the high rank of New York.¹

Location and Boundaries. New York is situated in the northeastern part of the United States, and, together with New Jersey and Pennsylvania, comprises the Middle Atlantic States. New England lies on the east, and the Dominion of Canada on the north and west. The Canadian boundary is formed mainly by two large lakes and two rivers. A part of the eastern boundary is Lake Champlain, while the Delaware River forms part of the southern boundary; the rest of the political boundaries on the east, south, and west, are lines fixed by agreement with adjoining states.

Form and Size. The shape of New York is roughly triangular. The eastern side of the tri-

angle approaches a straight line running north and south. A line drawn from Rouses Point to the southwestern angle has a southwest direction. The third side is formed by a straight line drawn a little north of west and connecting New York City with the southwestern angle. Which of these lines is the longest? Find the length of each line in miles. Lake Ontario and Lake Erie make deep indentations on the western border and Long Island Sound and New York Bay on the southeastern border.

The greatest extent of the state from north to south is



Physical divisions of New York, with divide lines.

about four and one-half degrees of latitude; from east to west, including Long Island, it is about eight degrees of longitude. Figure these distances in miles. The distance by rail from New York City to Rouses Point is about 312 miles; from Albany to Buffalo it is 297 miles. To travel either of these distances in the fastest railway train requires about five and one-half hours. The area of New York State comprises 47,654 square miles of land and 1,550 square miles of water, or a total of 49,204 square miles. This, however, does not include New York's half of Lake Erie and Lake Ontario, which amounts to 3,140 square miles. The population is now over 10,000,000, or about one-tenth the population of the entire country.

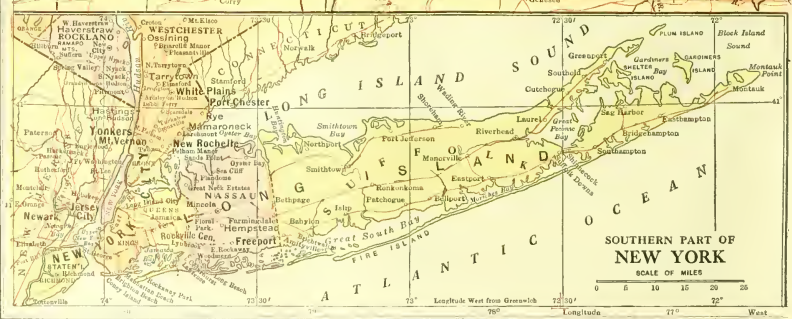
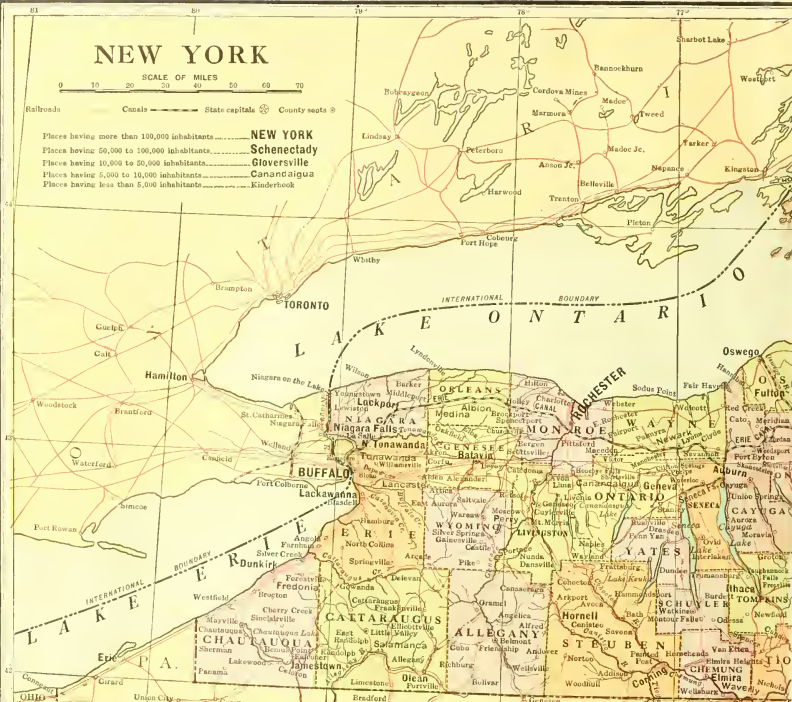
¹ Preparatory to the study of this article on the Geography of New York State the pupil should read pages 78-97 in NIVER'S ADVANCED GEOGRAPHY, treating of the Middle Atlantic States, as nearly half of the material in these pages is devoted to New York.

NEW YORK

SCALE OF MILES
0 10 20 30 40 50 60 70

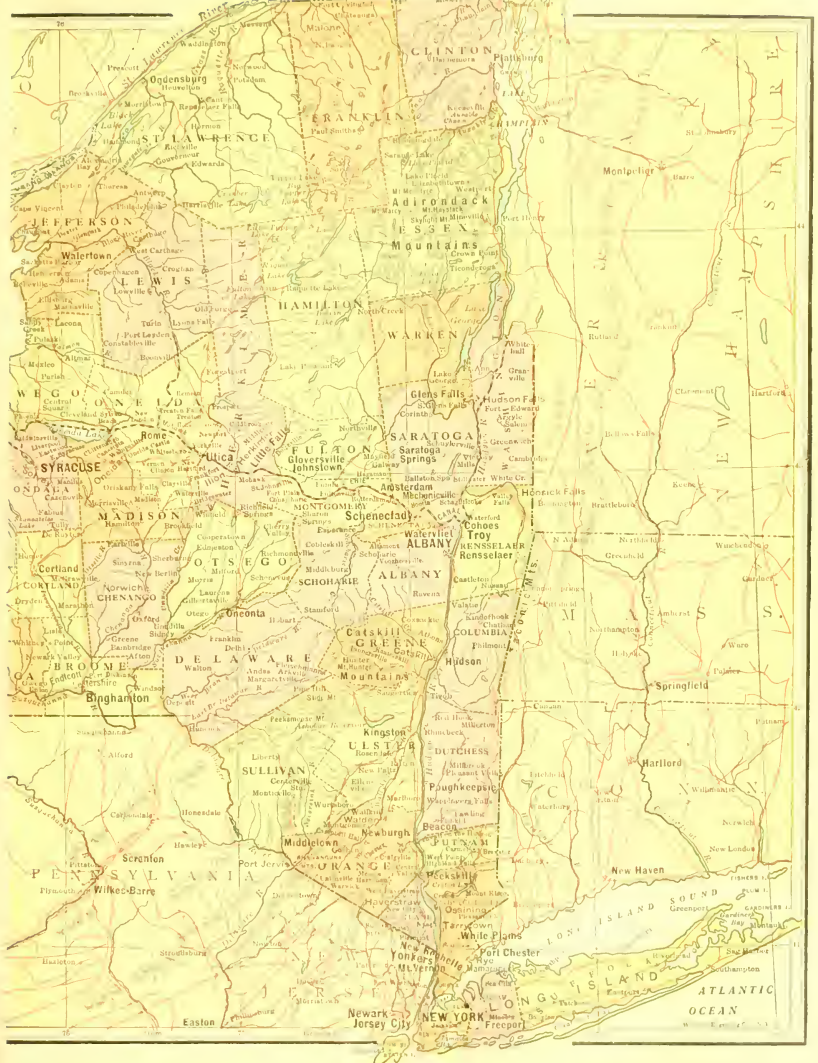
Railroads: ———— Canals: - - - - State capitals: * County seats: @

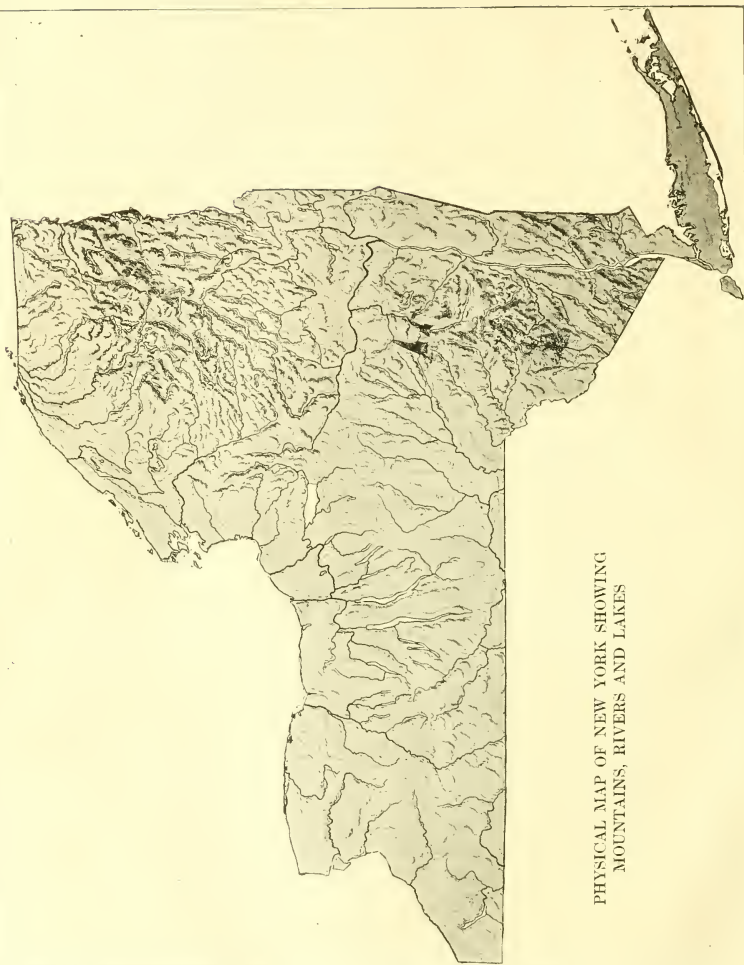
- Places having more than 100,000 inhabitants..... **NEW YORK**
- Places having 50,000 to 100,000 inhabitants..... **Schenectady**
- Places having 10,000 to 50,000 inhabitants..... **Gloversville**
- Places having 5,000 to 10,000 inhabitants..... **Canandaigua**
- Places having less than 5,000 inhabitants..... **Kinderhook**



SOUTHERN PART OF
NEW YORK
SCALE OF MILES
0 5 10 15 20 25

Longitude West from Greenwich 72°30' 73° 74° 75° 76° 77° West





PHYSICAL MAP OF NEW YORK SHOWING
MOUNTAINS, RIVERS AND LAKES

II. PHYSICAL FEATURES

Topography. The surface of New York comprises a low Coast Plain, extensive valleys, and high plateaus and mountains. The highlands belong to the Appalachian System, and have been much cut, worn down, and rounded by glacial action. Nearly all the summits are covered with a deep, rich soil and support a dense vegetable growth. The chief mountains are the Adirondacks, a so-called "island group," being surrounded on all sides by lowlands. Its ancient rocks are of hard, crystalline material and contain considerable amounts of iron, zinc, and other valuable minerals.

The ridges extend in general from northeast to southwest, following the trend of the Appalachian System. Many of the summits exceed 3,000 and even 4,000 feet in height. Mount Marcy (5,344 feet) and Mount McIntyre (5,112 feet) are the highest points. Skylight, Haystack, Whiteface, Gray Peak, Mt. Dix, and many other peaks are slightly less than 5,000 feet.

Forest Reserves. Two-thirds of the Adirondack region, or about 4,000 square miles, belongs to the State Forest Reserve and is called "Adirondack Park." Fire-wardens and police are employed to prevent fires and trespassing, and much attention is given to cultivating young trees and resetting the areas which have been depleted by fire or by lumber companies. The lakes are kept stocked with fish, and regulations as to the hunting and fishing seasons are strictly enforced. The forest preserve in the Catskills covers over 130,000 acres. The state owns about as many acres in scattered plots outside of the Adirondack and Catskill parks.

Letchworth Park, near Cayuga Lake, and Palisade Park, in the Highlands, were presented to the state

by the Letchworth and Harriman estates. Palisade Park is shared by New Jersey and is also called Interstate Park. Although these preserves were



Watkins Glen.

acquired by the state with a view to preventing floods by protecting the forests near the headwaters of streams, it is estimated that they may be made to yield a revenue of \$1,000,000 annually from the



The Clinton Range in the Adirondacks. The high peak in the center of the picture is Mt. Marcy.

sale of lumber and the leasing of camp sites. It is the plan of the State Forester not only to prevent the forest fires which have become so frequent, but also to reset the vacant places with young trees and to cut only full-grown trees, thus making the state forests a regular source of income.



Mount Pharaoh and Pyramid Lake in the Adirondacks.

The **Catskill Mountains** and the Allegheny Plateau form a continuous highland, beginning about ten miles west of the Hudson River and extending to the Lake Plain. A steep ascent, or **escarpment**, bounds it on the north and northeast, while to the west and northwest it descends more gradually to unite with the Lake Plain. The highest points in the Catskills exceed 4,000 feet. Among them are Slide Mountain (4,205 feet) and Mount Hunter (4,025). Black Dome, Big Westkill, Peckamoose, and Panterkill are a little less than 4,000 feet. The Catskills, like the Adirondacks, are well wooded and the scenery is picturesque, with precipices, ravines, lakes, streams, and waterfalls. They contain many well known summer resorts and hundreds of smaller

hotels and boarding houses to accommodate summer guests.

The Plateau Region. The average height of the plateau in central New York is 2,000 feet. It is dissected from north to south by wide valleys containing lakes and rivers. Some of these valleys are very fertile and several hundred feet below the general level of the plateau. The dividing ridge of the plateau lies somewhat south of its central axis and its southern slope continues southward into Pennsylvania.

The lakes in the central part of the state are called from their shape "**Finger Lakes.**" They occupy depressions extending north and south, which were plowed out by the ancient Laurentian glacier. Two of these lakes, Cayuga and Seneca, are about forty miles in length, several miles wide, and very deep. They have a noticeable effect upon the climate, and as routes of transportation they have promoted the development of the country adjoining them.

The Eastern Highlands. The third highland region begins near the head of Lake Champlain. Here, the foothills of the Berkshires and the Taconic Mountains of New England enter New York, and after following its eastern border for several hundred miles, they turn to the southwest, crossing the valley of the Hudson, where they receive the name "**Highlands,**" and continuing thence into New Jersey and Pennsylvania. The Highlands rise to the height of 1,500 feet, and through them the Hudson River has cut a diagonal gorge making the most picturesque region in the state. From the water's edge, on either side, rise lofty mountain peaks, many of which are associated with legends of the Indians and of the early Dutch settlers. West of the Hudson are



General view of Dansville, Livingston County.

the **Shawangunk** (shon'-gum) Mountains and the **Ramapo Hills**; and bordering the west banks and continuing southward to New York City, is a range of nearly vertical cliffs called **Palisades**. They consist of volcanic rock which has been forced up through the older strata and which has in many places crystallized into vertical columns. This rock has been so much in demand for making road material, that in order to preserve the scenery, a large part of this section has been acquired by New York and New Jersey and made into "Palisade Park."

The Eastern Lowland. The chief lowlands of New York consist of the Coast Plain, Hudson and Champlain Valley, the Mohawk Valley, the St. Lawrence Valley, the Lake Plain, and many small river valleys. The Hudson and Champlain Valley is continuous from the ocean to the St. Lawrence River. It is divided into two parts by a low ridge, which crosses Washington County near Fort Edward and passes around the southern end of Lake George.

The Central Lowland crosses the middle of the state from east to west, and joins the Hudson Valley with the Lake Plain. It follows the valley of the Mohawk River to its source, where a low ridge extending from north to south separates it from the Lake Plain. It then continues westward in a broad belt parallel with the shore of Lake Ontario.

The Central Valley with that of the Hudson, has formed an important route of transportation and trade from the earliest times. The Indians brought

Plain became a highway for immigrants from the older states. They journeyed up the Mohawk and Hudson to Rome, and thence to Oneida Lake and down the Genesee River to Lake Ontario; a short trip overland in wagons brought them to the headwaters of the Ohio. Thousands of settlers thus



The Palisades on the New Jersey shore of the Hudson River.

passed across the state between 1790 and 1820. Many of them, attracted by the rich farming land, settled along this route. After the Erie Canal became the principal route of trade between the East and West, these settlements grew into cities, and this section grew into the most populous part of the state outside of New York City.

The St. Lawrence Valley is a fertile region surrounding the Adirondacks on the north and west, and is crossed by numerous small streams. The lowlands bordering Lake Ontario, which belong to the **Lake Plain**, have an average breadth of about thirty miles; they are thought to have been covered at one time by a larger Lake Ontario, of which the shore line may still be traced. The soil is composed of the silt and mud which once formed the bottom of the ancient lake. The plains bordering Lake Erie had a similar origin. The Coast Plain, which includes Long Island, was formed by sands deposited by the tides and by the rising of the ocean bed. Among the smaller river

valleys the most important are those of the Wal-kill and the Genesee.

Drainage. There are five drainage systems. The first and largest is that of the Great Lakes and the St. Lawrence River, discharging into the Gulf of St. Lawrence. The second is the



Salt wells near Syracuse. Many of the early immigrants into New York settled in this region on account of the valuable deposits of salt.

their furs down the Mohawk as far as the site of Schenectady and then followed a trail to Albany, where they traded with the Dutch. This trail grew into a highway, and railroads now follow it. After the Revolution, when the Ohio Valley came into the possession of the United States, the Central

Hudson-Mohawk System, discharging into New York Bay. The third is the Susquehanna System, discharging into Chesapeake Bay. The fourth is the Delaware System, discharging into Delaware Bay. The fifth area is drained by the Allegheny River and its tributaries, which discharge finally into the Gulf of Mexico.

To these five drainage systems we may add the Genesee River, which rises in northern Pennsylvania, cuts its way across the plateau, crosses the entire state, and flows into Lake Ontario. Its course is marked by rapids and waterfalls, especially at Portage and Rochester. The valley through which it flows is one of our richest farming regions. East of the Genesee Valley is the Seneca River, fed by the overflow of the Finger Lakes; it flows eastward, joining the Oneida and Oswego, and discharges into Lake Ontario. West of the Genesee are the Tonawanda, the Buffalo, and the Cazenovia creeks, which drain the western end of the Lake Plain. The chief streams draining the St. Lawrence Valley rise in the Adirondacks. The largest are the Black River, the Oswegatchie, the Raquette, the Grass, and the Salmon. The Chazy, the Saranac, and the Ausable drain the eastern slopes of the Adirondacks into Lake Champlain.

The Hudson-Mohawk System drains two narrow valleys; that of the Hudson is about 300 miles long, and that of the Mohawk, 100 miles. The Hudson is the largest river of the state and



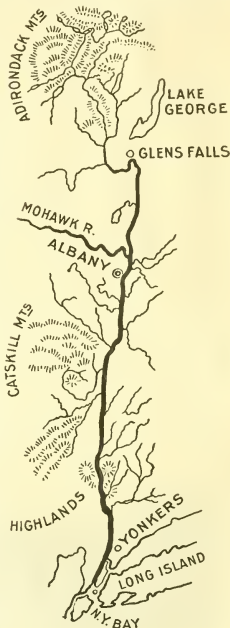
Among the Highlands of the Hudson.

the most useful for navigation. It is formed by several small streams which descend the southern slopes of the Adirondacks. In its upper course it is a swift, winding mountain stream, used chiefly for floating logs to the sawmills, and for supplying power to factories; but at Troy it becomes

an estuary and is navigable for large steamboats, from there to New York, a distance of 150 miles. In winter when the river is frozen it becomes a valuable source of ice.

The breadth of the Hudson below Albany varies from 900 to 2,000 feet and its depth is sufficient for

all kinds of craft except the very largest. The Mohawk, the chief tributary from the west, receives West Canada and East Canada creeks, both of which supply water power at Trenton Falls and at Little Falls. The Mohawk itself, in its course from Rome to the Hudson, has a total fall of 250 feet. At Cohoes it makes a final leap of 70 feet. Other tributaries of the Hudson from the west are the Walkill River and the Catskill Creek. The tributaries from the east are small streams but furnish power for many sawmills and gristmills.



The Hudson River System.

The Susquehanna System drains the land between the

Delaware and the Genesee valleys. The main stream has its source in Oswego Lake and its chief confluent is Unadilla Creek and Chenango and Chemung rivers. The Delaware River rises on the western slopes of the Catskill Mountains, where several swift streams following deep valleys unite to form the main channel at Port Jervis. The section thus drained is rugged and covered with forests. The southwestern part of the state is the source of the headwaters of the Ohio River.

The Allegheny is the chief confluent, rising in the northern part of Cattaraugus County. It receives the outflow of Chautauqua Lake, French Creek, and other small streams. The headwaters are within five miles of Lake Erie.

Scenery. New York is noted for the beauty of its scenery and for its many natural wonders. Its forests, rapid streams, waterfalls, gorges, and caves; its lakes, rivers, and mineral springs attract tourists from every part of the world. The mountainous sections are resorts both for sportsmen and for those seeking recreation and health. The waterfalls are noted for natural beauty and are valuable sources of motive power. The most celebrated is Niagara Falls, where the volume of water from the Great Lakes, emerging from Lake Erie, descends 300 feet by a series of rapids and one tremendous plunge over a lime stone cliff. Goat Island at the summit of the cliff divides the mighty stream into two branches. The eastern, or **American Falls**, is 167 feet high. The western, or **Horshoe Falls**, is the grander cataract and has a height of 158 feet. The enormous power of Niagara Falls has been utilized for developing electricity.



Niagara Falls.

The falls and adjoining territory form a State Park visited each year by nearly a million people. Other well known waterfalls are Glens Falls, on the upper Hudson, Cohoes Falls, Kaaterskill Falls, and the Taughannock Falls near Cayuga Lake. In Watkins Glen are several famous cascades.

Thousand Island Park and Other Resorts. Where the St. Lawrence River emerges from Lake Ontario, there are literally a "thousand islands." The bordering waters are remarkably clear and deep. Near Lake Champlain is Lake George, widely known for its beauty and as a resort for visitors. North of Lake George is Ausable Chasm, a verticle gorge cut



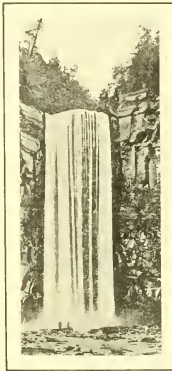
Among the Thousand Islands.

through the mountain by the Ausable River. Equally famous is Chautauqua Lake in the southwest and many of the lakes on the Central Plateau. Among the more important health resorts are Saratoga Springs, Ballston Spa, Richfield Springs, Clinton Springs, and Sharon Springs. Find these places on the map. Other resorts are Long Lake, Indian Lake, Lake Tupper, the Saranac Lakes, and Lake Placid.

Caves and Grottoes. The most remarkable of these is Howe's Cave in the northern part of Schoharie County. It extends a mile or more underground and has rooms and galleries that reach a height of several hundred feet. Grottoes and caverns are found in many places along streams that have cut through limestone rock. Among the remarkable gorges are those of the Niagara River, the Ausable River, and Watkins and Havana glens near Seneca Lake. Other grottoes and a natural bridge are found on Indian River.

Climate. On account of varying elevation and the bordering waters of New York, the climate has a wide range of temperature. In the southeastern part the moderating influence of the ocean is felt, the average temperature at New York City being about 74° in July and 30° in January, with

extremes of 100° and 6° below zero. The plateau region in the southern half of the state has greater extremes of temperature, though in the mountain section the summers are cool and delightful. The coldest area is in the Adirondack region, where frosts often come in August and the winter temperature falls to 20° and even to 40° below zero. The temperature of the Lake Plain is moderated by the lakes, which store up heat during the summer and continue to give it out until late in winter. This lengthens the growing season and allows late fruits and grains to ripen. The influence of the lake has made that section one of the most productive fruit-growing regions of the



Taughannock Falls on Cayuga Lake near Ithaca.

country. The apple crop of New York is greater than that of any other state.

Rainfall. The average annual rainfall for the whole state is about 40 inches. It is well distributed throughout the year, and though drouths



Falls on West Branch of Cazenovia Creek, on the Buffalo Rochester & Pittsburgh Railroad between West Falls and Colden, Erie County.

sometimes occur in the central and eastern parts, they are seldom of long duration. The heaviest rainfall occurs in the Adirondacks. North of the plateau the snowfall often attains a depth of several feet.

Soil. In order to account for the various soils we must study the effects of the ice sheet, or **glacier**, which once covered practically all of the state; moving south from the northern part of the continent, it brought quantities of sand, gravel, clay, and boulders, gathered up during its progress. When, after *thousands of years*, the climate became warmer and the glacier slowly melted and disappeared, this mixture, or **drift**, as it is called, was left spread over the surface of the country. In some places it was deposited in long ridges and rounded hills, called *moraines*



Upper Falls of the Genesee River — 95 feet high.

and *drumlins*. These extend in a north and south direction, establishing the course of the glacier.

The glacial drift was also acted upon by running waters. The streams carried away the finer material leaving it along their banks forming flood plains. Soil deposited in this way is called alluvial soil and is very fertile. Much of the soil of the Lake Plain is alluvial deposit. The underlying rock of New York is largely limestone, which on decaying increases the fertility of the soil, as lime is an essential plant food. The soil of the Coast Plain is composed of sand mixed with loam washed from the glacial moraines. When fertilized it is well adapted to vegetables and fruits. The soil of the river valleys frequently consists of clay. Thick beds of clay useful for making bricks and tiles are found along both banks of the Hudson.

Another important effect of the glacier was the formation of **lakes** and **waterfalls**. The immense weight of ice deepened the old valleys and plowed out gorges, both of which afterward became lakes. In some cases the moraines were deposited across the river valleys, damming the streams or turning them into other directions. The new channels frequently led over rocks of varying degrees of hardness and cataracts and rapids were formed. In this way the falls of Niagara, of the Genesee,

and of other streams originated. All such falls are gradually becoming lower as the rocks wear away, but thousands of years must pass before they will be worn down to the lower levels of the streams.



Map showing production of sweet corn. The figures in the counties represent hundreds of acres; Oneida County for example, has 38.6 hundreds, which equals 3,860 acres.

Vegetation. The early settlers in New York found the land covered with forests, which were cut to make room for farms; but most farms still have enough woodland to supply firewood and an occasional load of lumber. Extensive forests are

nut, and occasionally cherry, black walnut, and whitewood.

Animal Life. Squirrels, hares, woodchucks, foxes, and muskrats are found throughout the



A corn field in central New York.

state; there are also here and there a few fur-bearing animals such as the mink, the skunk, and the sable. Deer and rabbits are found, and occasionally a bear or a wildcat. Since they have been protected by the game laws, beavers have become quite numerous in the Adirondaeks and are doing considerable damage by cutting down trees and damming the streams. The chief varieties of game birds are woodcock, quail, partridge, and grouse. Wild ducks, geese, and pigeons are found at certain seasons. The rules governing the forests and the taking of fish and game are made by the Conservation Commission, the members of which are appointed by the Governor.



A dairy herd and barn in New York State.

now found only in the Adirondaeks and Catskills. The most abundant trees of the northern forests are white pine, hemlock, spruce, and a few hardwoods. In other regions hardwoods prevail and consist chiefly of oak, maple, ash, hickory, chest-

ing about 100 acres and valued at about \$7,000 each. Owing to the present increased value of all farm products, most farmers are in prosperous circumstances. The farm houses are generally large and comfortable, and the barns and out-

III. INDUSTRIES

Agriculture. In 1910 the state contained 215,597 farms averag-



Cutting corn from the ears in a canning factory at Canastota.

buildings commodious and well equipped. There are wells, springs, and running water in abundance, and sufficient timber for fuel and for keeping fences and buildings in repair. The total annual value of the farm products of the state, including animal products, is about \$300,000,000. Owing to differences in climate and soil and to the demand for special foods and raw materials, the farm products are of great variety. The most productive sections are the Hudson and Mohawk valleys and the Lake Plain, which lead in corn,



Interior of a model cow barn in New York State.



A factory where milk is pasteurized and bottled for use in New York City.

buckwheat, barley, beans, small fruits, and vegetables.

The fact that three-fourths of the population of the state resides in cities and towns, has greatly stimulated market-gardening and truck-farming. New York receives fruits and vegetables from Long Island, New Jersey, and the states farther south and west. Albany, Troy, and other cities near the junction of the Mohawk and Hudson have stimulated the garden industries in the neighboring counties. The cities in the Central Valley and the Lake Plain, from Utica to Buffalo, require large daily supplies for their markets.

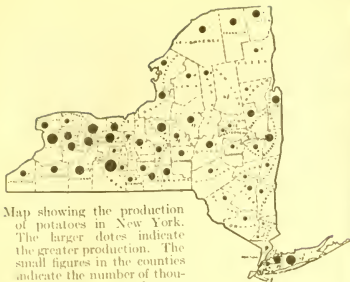
Dairying. The dairying industries also have been benefited by the demands of the neighboring city markets. Creameries, cheese factories, and milk-bottling stations are numerous along the lines of railway. Express trains equipped with re-

frigerating cars carry daily to New York City more than 1,000,000 gallons of milk. The greater part of this milk is pasteurized and bottled before delivery to the customer.

Canneries. There are in the state about 600 factories engaged in the canning of peas, beans, corn, apples, pears, and other vegetables and fruits. Many of these are in the central and western parts. The farmers in these sections devote much of their labor to supplying raw materials to the canneries, where over 5,000 persons find employment.

oats, wheat, and orchard fruits. The lighter soils of the uplands serve for pasturage and yield rye,

Fruit. The fruit belt is chiefly in the lower half of the Hudson Valley and in the Lake Plain.



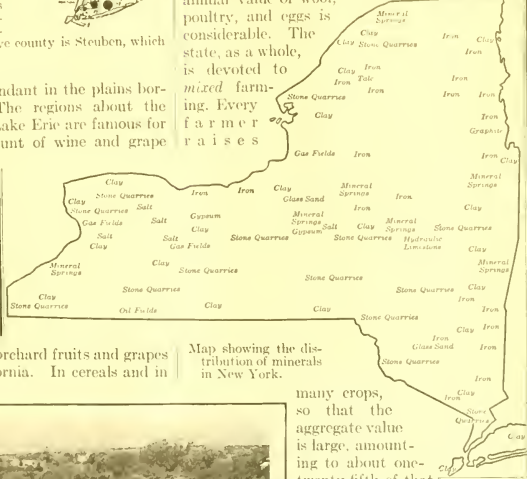
Map showing the production of potatoes in New York. The larger dots indicate the greater production. The small figures in the counties indicate the number of thousands of acres devoted to potatoes. The most productive county is Steuben, which has 30,500 acres.

Apples are especially abundant in the plains bordering Lake Ontario. The regions about the Finger Lakes and along Lake Erie are famous for grapes, and a large amount of wine and grape juice is manufactured. Niagara County grows fine peaches, and small fruits are grown in most counties south of the Adirondack region. In dairying industries, in hay and forage crops, in potatoes and buckwheat, and in small fruits, New York is the leading state. In orchard fruits and grapes it is second only to California. In cereals and in



Cranberry marsh on Long Island in picking season.

animal products it is surpassed by the great farming states of the Middle West, but yet the crops of wheat, corn, rye, and oats are large, and the annual value of wool, poultry, and eggs is considerable. The state, as a whole, is devoted to mixed farming. Every farmer raises



Map showing the distribution of minerals in New York.

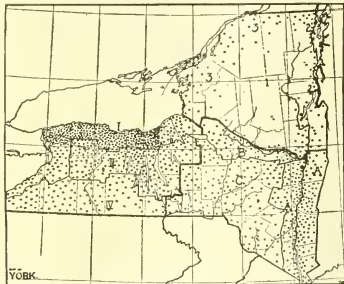
many crops, so that the aggregate value is large, amounting to about one-twenty-fifth of the total farm products of the United States. Hops, tobacco, and sugar-beets are minor crops.

Sweet corn is extensively grown for canning. More than 25,000 acres, mainly in the central and western parts of the state, are devoted to this crop, and the value of the corn before canning exceeds \$1,000,000 annually (see page 13).



Peach orchards near Hector, Schuyler County.

Fisheries. Aside from the game fish, such as trout, bass, pickerel, and pike, which abound in the smaller lakes and streams, the fishing industries are confined to the Great Lakes, the Hudson River, and the Atlantic coast—especially the southern shore of Long Island. Whitefish and lake trout are taken in Lake Ontario; sturgeon, shad, and herring, in the Hudson River; bluefish, weakfish, sea-bass, oysters, and clams, along the Atlantic coast. Oysters rank first in value and bluefish second. Great numbers of menhaden also are caught in seines along the Atlantic coast, to be used in the manufacture of oil, glue,



Map showing apple production. Each dot stands for 10,000 trees. The figures and letters indicate natural divisions: I is Ontario shore; II, the Erie Shore; III, the Genesee Valley and the central lakes; IV, the Western Plateau; A, the Hudson Valley; B, Mohawk Valley; C, Eastern Plateau; figure 1, Adirondack Region; figure 2, Upper Hudson and Champlain Valleys; figure 3, St. Lawrence Valley and Eastern Ontario Plain.

and fertilizer. The fisheries of the state employ about 12,000 men. The Long Island section is the most productive region, and New York City is the leading market.

Minerals. A list of the chief mineral products is given on page 45. Some of them are raw products and others are derived from the raw product. Of the total value of both classes more than one-half is credited to pig iron. The ore is chiefly mined in Essex County near Lake Champlain, the mines at Mineville producing over one-half the total output. Iron ore is found also at various points in St. Lawrence County, along Lake Champlain, on the south shore of Lake On-



Vineyards at Kendaia, near Seneca Lake along the Lehigh Valley Railroad.

tario, and in the valley of the Hudson. **Clay products** rank next in value to iron. They consist of brick used in building and paving, tiles for drains and sewers, pottery, terra cotta, and fire brick.

In the clay industries New York is the fifth state, being surpassed by Ohio, New Jersey, Pennsylvania, and Illinois. Clay suitable for manufacturing bricks is found in several districts, but chiefly in the valley of the Hudson, which is one of the most productive brick-making regions in the world. The chief market for the product is New York City. Ulster and Rockland counties are the chief centers of clay manufactures and other counties along the Hudson have similar industries. New York City and Syracuse lead in the manufacture of pottery, which consists chiefly of tableware.

Stone is the third in value, and includes limestone, sandstone, granite, marble, and various derived products. There are few counties where building-stone of some kind is not found, as the underlying rocks everywhere are suitable for this purpose. Granite occurs in the Adirondacks and in the Highlands on the west shore of the Hudson. Much of it is made into paving stones, or into crushed stone for streets and roads. Limestone is made into rubble and building-stone, and is used in smelting iron ore. **Lime** for building purposes is manufactured from limestone by burning it in kilns, or ovens. Lime is used also as a fertilizer and for making various chemicals. **Portland cement**, so largely used for paving and building purposes, is manu-



Hillsides covered with vineyards near Naples, N. Y.



Picking peas at Mount Morris, Livingston County, a noted canning center.

factured from a variety of limestone known as cement rock. This rock is quarried near Fayetteville in Onondaga County, but chiefly in the Rosendale district of Ulster County. The city of Hudson leads in the manufacture of Portland cement.

Sandstone is very abundant, and widely distributed. Potsdam and Medina have given their names to the sandstone strata found near those places. The Hudson River sandstones are quarried from Glens Falls southward to Orange County. Roofing **slate** is found in Washington County, the quarries being part of the formation which extends into Rutland County, Vermont. The red slate of this region is scarce and very valuable. It is used for ornamental work, and some of it is ground to make paint. **Bluestone** is a rock formed from shale or mud. It is fine-grained, firm, and was formerly much used for sidewalks. It is found chiefly in Ulster County, and is shipped from Saugerties and Kingston; the amount quarried is decreasing owing to the extensive use of Portland cement and crushed stone for the construction of roads, streets, walks, and buildings.

Sand and gravel are used for building, paving, and manufacturing. Different kinds of sand are used in making glass, mortar, asphalt, and molds for castings. "Engine sand" is used on the railroad tracks so that the wheels of the locomotives and cars will not slide. Gravel is coarser than sand, consisting of small pebbles and stones. Its chief use is for building roads and ballasting railroad tracks.

Salt. In the output of salt New York ranks next to Michigan. Salt is obtained from the earth as rock salt and also in the form of brine. The salt rock formation underlies the greater part of Genesee County, all of Livingston County, and the western part of Ontario County. The largest salt mine in this country is located at Retsof near Greigsville in Livingston County. The rock is mined at a depth of 1,000 feet, and

700 men are employed. The thickness of the deposits average about 150 feet throughout the entire district. Another large salt mine is worked at Cuylerville.

Layers of shale, limestone, and other rock occur between the salt strata. The formation at Ithaca measures a total depth of 407 feet of which 240 feet are salt. The Solvay mines at Tully are over 300 feet deep. The brine is obtained by sinking shafts to the salt rock, sometimes 1,000 feet or more below the surface, making a "salt well"; if no water is struck, it may be introduced from the surface.

The water dissolves the salt and is then pumped out and evaporated. When the heat of the sun is utilized for this purpose, as at Syracuse, the product is called *solar salt*. The brine obtained from wells in Onondaga County is piped to Solvay near Syracuse, where it is evaporated and manufactured into salt, soda ash, caustic soda, baking soda, and other chemicals. Brine salt is produced at Le Roy, Watkins, Saltville, Piffard, Ithaca, and at various other places in the central part of the state. Crude salt has to be purified and otherwise prepared for table use.

Graphite is a crystalline form of carbon used for making lead pencils and stove polish, and for lubricating machinery. New York is the leading state in this mineral, which is found at various points in Warren, Washington, Essex, and St. Lawrence counties.



A limestone crushing plant at Syracuse. The crushed rock seen in the picture is used as a fertilizer and in the manufacture of many chemicals.

In **mineral waters** New York ranks next to Minnesota. The water is obtained from 50 different springs located in Saratoga, Schoharie, Cayuga, Chemung, Oneida, Oswego, Columbia, Ontario, and other counties; the most valuable waters for medicinal purposes are yielded at Saratoga Springs, Ballston Spa, Richfield Springs, Sharon Springs, and Lebanon Springs.

Gypsum is a material used chiefly for making fertilizers, and plastering for walls. It is now quarried principally in Onondaga, Monroe, Erie, and Genesee counties. **Petroleum** is obtained from wells in Cattaraugus, Allegheny, and Steuben counties. The annual output averages about 1,000,000 barrels, worth about \$2 per barrel. **Natural Gas** is found in the same locality and also along Lake Erie and on the edge of the Allegheny Plateau in the western part of the state. Its annual value averages about twice that of petroleum. **Talc** is a soft variety of limestone, which is crushed to make a fine white powder. New York leads in this product, which comes entirely from a small district near Gouverneur in St. Lawrence County. It is used chiefly for coating paper to give it a smooth surface. Other minerals of less importance are used for grinding and polishing, such as emery, garnet, and the hard gritty sandstone used in making millstones and grindstones, which is quarried in Ulster County.

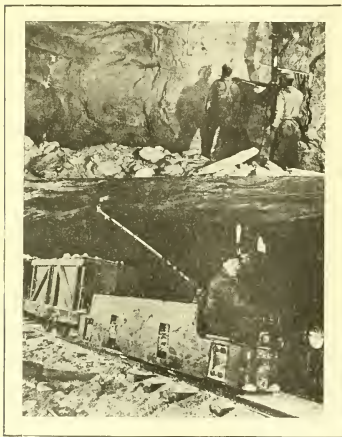


Quarrying limestone in Onandaga County; 2,000 pounds of dynamite were exploded in this shot.

IV. TRANSPORTATION

Transportation Routes. The position of New York between the busy manufacturing centers of New England and the rich farming regions of the Middle West, together with convenient transportation to the seaboard, has made it the most important commercial region in the world. The Hudson and Champlain Valley and the valley of the Mohawk and the Lake Plains form nearly level routes, which cross the state in two directions leading to Canada and to the West. New York thus becomes a natural gateway to the resources of the eastern half of the country. The importance of these routes is shown by the fact that one-third of the exports and nearly two-thirds of the imports of the United States pass through New York City, the point where the leading trade routes converge. These lines of travel have been of great importance since the earliest times, and are still the chief routes through the state.

Early emigrants to the West crossed the state from the Hudson to Lake Erie by way of the Mohawk River, Oneida Lake, the Oswego River, and Lake Ontario. There were portages at Cohoes, Little Falls, and Rome. By the close of the eighteenth century, canals had been dug around the falls and rapids, making a continuous water route. The first highway also followed the Central Valley, and was much traveled in early times. The opening of the Erie Canal in 1825 was the beginning of great prosperity for New York. The cost of carrying goods across the state was reduced more than 90%, and New York City became the commercial metropolis of the country. A few years later other canals were completed, joining Lake Champlain with the Hudson River, and connecting the Erie



In the great salt mine at Retsof, N. Y. In the upper part of the picture a compressed air drill is being used; the lower part shows an electric freight train loaded with blocks of salt.

Canal with the Black River and the Susquehanna. The Delaware River also was connected with the Hudson by a canal extending from Port Jervis to Kingston.

Railroads. The period of canal building was brought to a close by the invention of the railroad and the steam locomotive. The first cars were drawn by horses, but after a few failures a successful locomotive was built in New York City and placed on the tracks of the South Carolina Railroad in Charleston in 1831. The Mohawk & Hudson River Railroad Company was organized in 1826 and built a line from Albany to Schenectady, over which the first successful railroad train was run five years later. Many other lines were built between cities in the central and western parts of the state, until by 1842 Albany and Buffalo were connected. All these short lines

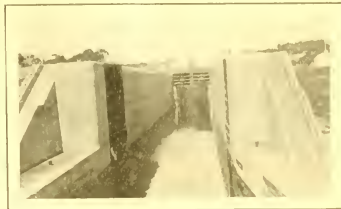


Canal boats going down the Oswego River into Lake Ontario.

were finally merged into the New York Central & Hudson River Railroad Company.

The New York Central is the most extensive system, comprising 2,691 miles of main track, or 30% of the entire trackage of the state, which now amounts to about 8,500 miles. The main line extends from New York to Buffalo, where it connects with the Lake Shore & Michigan Southern, the Michigan Central, and other lines, for Cleveland, Pittsburgh, Chicago, Cincinnati, Detroit, and St. Louis. At Albany connection is made with the Boston & Albany, for Boston. A branch from the main line passes through Troy and Cohoes, to Schenectady. At Little Falls, Herkimer, Utica, Rome, and Syracuse, branches leave the main line for Oswego, Watertown, Ogdensburg, the Adirondack region, and Montreal. At Syracuse two stems leave the main trunk, one following the shore of Lake Ontario to Niagara Falls, and a second turning southwest and south through Auburn, Geneva, and Corning, to the Pennsylvania line. Geneva is con-

nected with Lyon and Rochester, and from this city westward there are five main lines, one following the lake shore, a second passing through Lockport, a third and fourth running westward to North Tonawanda and Buffalo, and a fifth running from Canandaigua through Batavia to Buffalo. Other



The first lock at Waterford on the new Barge Canal leading from the Hudson River to the Canal.

important branches of this complicated system are the New York & Harlem, running to Chatham, the West Shore system, from Weehawken to Buffalo, and the Boston & Albany. Many other lines are operated, some of which are leased and some owned by the company.

Commerce. As the New York Central lines traverse the most productive parts of the state, they are the chief carriers of our domestic trade. In 1914 this system carried over 11,000,000 tons of the state's productions. Fruit, vegetables, hay, grains, and other farm products made up about



Albany Day Line Steamboat, Hendrick Hudson, setting out from Pier 130, New York City.

one-eighth of this amount; mineral products constituted one-fifth; forest products, one-ninth; and the largest item of all was manufactures, amounting to 5,000,000 tons.

The Erie Railroad Company was organized in 1832, and has the second great trunk line of the

state, with about 1,000 miles of track. The main line ran originally from Piermont, Rockland County, to Dunkirk. It now branches at Corning for Rochester, at Hornell for Buffalo, and at Salamanca for Jamestown; the eastern terminus is at Jersey City. The roads extend beyond the limits of the



A modern locomotive.

state to Youngstown, Cleveland, Marion, and Cincinnati, in Ohio. Coal and coke make up about one-half the total freight.

The Delaware & Hudson Company is third in the state, with 725 miles of track. It is the oldest railroad company in the country, having been organized in 1823. The main line extends from Binghamton to Rouses Point, passing through Schenectady, Albany, Troy, Saratoga Springs, and Ballston Spa. Among the picturesque and historical places on this route are Howe's Cave, Lake George, Lake Placid, Ausable Chasm, Fort Ticonderoga, and Plattsburg. A spur



Taking bricks from a storage shed along the Hudson River. The bricks are loaded on barges and shipped to New York City, the largest market in the country for building materials of every sort.

in Otsego County runs from Cooperstown Junction north to Cooperstown. Another spur from Cobleskill, passing through Sharon Springs, ends at Cherry Valley, the scene of the Indian massacre in 1778. A third spur extends from Saratoga Springs north as far as North Creek in Warren County. At Bing-

hamton the Delaware & Hudson connects with the Lackawanna and Erie systems; at Oneonta it connects with the Ulster & Delaware; at Schenectady connection is made with the New York Central; at Troy, with the Boston & Maine; and at Albany, with the Boston & Albany. About one-sixth of the freight carried by this line, not counting that transferred from other lines, originates in New York. Material for building purposes is the largest item; the second is grain; and the third, manufactured goods.

The Pennsylvania Railroad system is the most extensive in the United States. It operates 857 miles in New York, including the Long Island Railroad (398 miles), and the Northern Central (111 miles). The Long Island division has three



Peter Cooper's "Tom Thumb," the first locomotive built in America.

main stems and several spurs, which diverge from Jamaica, Long Island City, Mineola, and Hicksville. In the western part of the state, the Pennsylvania has four branches: 1. Elmira to Canandaigua and Sodus Point; 2. Olean to Rochester and Buffalo, the main line branching at Hinsdale; 3. The Pittsburgh and Buffalo branch enters New York in Cattaraugus County touching at Mayville on Chautauqua Lake and following the shore of Lake Erie to Buffalo; 4. A fourth section runs west from Olean through Salamanca and westward to Erie, Pennsylvania. The freight carried by the Long Island division is made up largely of fruits, vegetables, poultry, game, fish, building materials, petroleum, and various manufactures.

The Delaware, Lackawanna & Western Road has about 500 miles of track, the main line extending from Hoboken, N. J., to Buffalo by way of Seranton,

Pa., and Binghamton, N. Y. The main line branches at Binghamton for Utica, Syracuse, and Oswego; another branch at Oswego runs to Ithaca. As the Lackawanna route crosses the hard coal region of Pennsylvania, it distributes a large amount of this mineral, carrying over 10,000,000 tons annually. The total amount of New York products carried by this line were about 2,560,000 tons in 1914; of this amount, about one-third was stone, sand, and



The "Palisades" along the Chemung River at Corning, on the Erie and Lackawanna railroads.

other minerals; one-fourth was grain and other farm products; and the remainder consisted of manufactured goods and miscellaneous articles.

The **Lehigh Valley Railroad** has 660 miles of track in New York, the greater part of which is in the central part of the state between Syracuse and Rochester. The main line runs from Jersey City to Buffalo, dividing at Sayre, Pa., into an eastern branch running to Camden, Oneida County, and a western branch which divides into four lines at Van Etten, running to Ithaca, Auburn, Fair Haven, Elmira, Geneva, Rochester, Batavia, and Buffalo. This line distributes about the same amount of coal as the Lackawanna. Its principal freight in New York consists of farm products and manufactures; the largest single items, however, are stone and sand.

The **New York, Ontario & Western** has 477 miles of track in the state, the main line running from Weehawken by way of Cornwall, Middletown, Liberty, Norwich, and Oneida to Oswego, with branches to Kingston, Port Jervis, Delhi, Edmeston, Monticello, Utica, and Rome. This line crosses the Shawangunk (shon'-gum) Mountains and the rich farming region of the Central Valley. Its freights derived from New York consist of dairy products, minerals, and various manufactures, amounting to about 800,000 tons annually.

The **Buffalo, Rochester & Pittsburgh** has 192 miles of track in the western part of the state, the main line running from Salamanca to Rochester and Buffalo. This road carries much soft coal out of western Pennsylvania as well as iron and steel

products. Its chief freights in New York are farm products and building materials.

The **Central New England Railroad** has 213 miles of track in New York. The main line begins at Campbell Hall, where it connects with the Erie, crosses the Poughkeepsie bridge, traverses Dutchess County in several branches, and enters Connecticut near Norton. It distributes coal transferred from the Erie, and gathers up farm products.

The **Rutland Railroad** (171 miles in New York) enters the state at White Creek in Rensselaer County and runs to Chatham, where it connects with the Boston & Albany and the New York & Harlem; it has connections also for Troy, Albany, Montreal, and other points north.

The **Ulster & Delaware** (129 miles in New York) is much patronized by tourists. It crosses the Catskill Mountain region, running from Kingston to Oneonta with branches to Hunter and Kaaterskill. The heaviest freight carried is hard coal.

The **Boston & Maine** (122 miles in New York) enters the state at Petersburg Junction in Rensselaer County, and extends to Troy and Rotterdam Junction, connecting with the New York Central system.

The **Northern Central** (111 miles in New York) runs from the state line south of Elmira, northward along Seneca Lake, branching at Stanley for Canandaigua and Sodus Point. This line is chiefly



Old covered bridge at Beaverville, Sullivan County, N. Y. on the New York, Ontario & Western Railroad.

a distributor of the coal, iron, steel, and other manufactures of Pennsylvania.

The **Buffalo & Susquehanna** (91 miles) runs from Pennsylvania to Wellsville, Nichols, and Addison. The **Pittsburgh Shawmut & Northern** (90 miles) extends from the Pennsylvania line to Olean, Hornell, and Wayland. The **New York, Chicago & St. Louis** (70 miles) runs from Buffalo southwest along Lake Erie to Chicago. The **Lake Shore & Michigan**

Southern (68 miles) follows the same route. The Delaware & Northern (46 miles) runs from Arkville, Delaware County, to East Branch, connecting with the Ulster & Delaware and the New York, Ontario & Western. The Dunkirk, Allegheny & Pittsburgh (42 miles) extends from Dunkirk to Titusville. The Jamestown, Westfield & Northwestern (39 miles) runs from Jamestown to Westfield in Chautauqua County. The New York, New Haven & Hartford has 37 miles of track in Westchester County. The South Buffalo Line runs from Buffalo Creek Junction to Lackawanna (36 miles). There are about 50 other short lines, branches, and spurs, which are mainly of local importance.

Electric Railroads. Besides steam railroads, there are 68 lines of electric roads in the state, outside of those in New York City, which operate over 2,000 miles of track. The New York State Railways Company has 350 miles in the city of



Map of Buffalo and vicinity showing steam railroads and Welland Canal.

Rochester and vicinity, extending to Utica, Rome, Syracuse, Geneva, Oneida, and Little Falls. The International Railway Company operates about 200 miles of track in the neighborhood of Buffalo, running to Tonawanda, Niagara Falls, Lockport, and other points. Electric lines are of course more numerous and important in and near the large cities; but they have been extended so far in the suburbs that one may now travel throughout the Central Valley and the western parts of the state without using steam lines at all. In like manner, gas, electricity, and telephone communication are found in all the large cities, towns, and villages. Railroads are so much used that the canals have for the most part been abandoned, but a new canal is being built across the state, wide enough and deep enough to float 1,000-ton barges; when it is completed, canal

freights will probably be much lower than railroad freights.

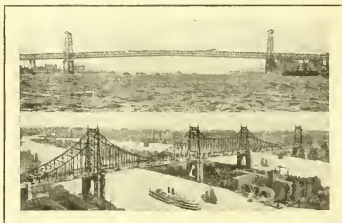
Highways. The lines of travel and transportation which are used by the greatest number of



Single arch double track steel bridge over Niagara gorge on Grand Trunk Railroad.

people are the public highways. The extensive use of automobiles in recent years has led to a general movement to improve these highways. Large sums of money are appropriated annually by the state for this purpose. The state roads are built on a foundation of broken stone and are good in all kinds of weather. Less important branch roads are cared for by the townships. All roads must be kept in good condition, as farmers often haul their crops many miles to market.

Manufactures. The value of the manufactured products of New York, according to the Federal



The Brooklyn and Williamsburg suspension bridges over East River.

Census of 1910, was \$3,369,490,000. At that time there were 44,935 manufacturing establishments; the State Census for 1915 gives 51,118 establishments, employing 1,364,070 persons, an

increase of about 160,000 over the number employed in 1910. In 1910 New York stood first among the states in 106 industries out of a total of 265; the five most valuable of these were cloth-

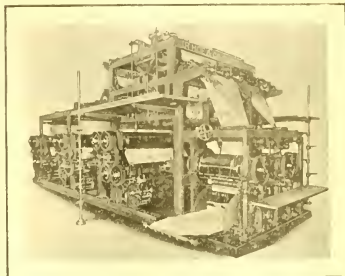
factures are first, convenient power and raw material; second, ability to obtain skilled labor; third, facilities for handling both raw materials and the finished products. New York City is



Sewing the sheets of a book preparatory to binding.

ing for women and men, printing and publishing, foundry and machine shop products, slaughtering and meat packing, and bread and bakery products. Other articles in which New York leads are men's furnishing goods, millinery, leather gloves and mittens, refined sugar, prepared coffee and spices, confectionery, chemicals, electrical machinery, hosiery and knit goods, tobacco products, and musical instruments.

Distribution of Manufactures. The causes determining the distribution of the various manu-



A newspaper printing press which prints and folds 1500 newspapers every minute.

the greatest labor market in the state, and one of the greatest in the world. It furnishes more than one-half the manufactures of the state. These are of great variety, and many require high technical skill. Among such are fine shoes and gloves, millinery, jewelry, and various articles made of metal. The clothing product (one-fifth of the whole) is the result both of abundant labor and of the enormous local trade. By far the greater part of the city's products are sold at home. Buyers come from every part of the United States to purchase stock for both wholesale and retail establishments.



View in a paper mill in New York State.



The works of the General Electric Company at Schenectady.

Sugar-refining and oil-refining are carried on largely in Brooklyn because of the convenience of transportation. Crude oil is forced



through pipes under the Hudson and East rivers from the Pennsylvania wells. The refined product is shipped in tank steamers to nearly every port in the world. Raw sugar and molasses from the West Indies are landed right at the doors of the Brooklyn refineries. The coffee and spice industries and the chemical and cordage industries center in New York because the raw materials are most conveniently assembled there. The lumber, wood pulp, and paper industries are located on the northern and western borders of the state, because of the proximity of the Adirondack and Canadian forests. The towns of the middle Hudson and the Mohawk are largely devoted to the making of knit goods and textiles. The chief reason for this is the cheapness of factory sites and power. Flour and mill products are produced at Buffalo and Rochester where wheat can be brought by water to the mills.

Distribution of Population. New York has an average of about 200 persons per square mile. Nearly three-fourths of the population, however, live in and near the great cities and manufacturing centers. New York City (Greater New York) has over half the total population of the state. The extensive manufacturing industries of cities give rise to a variety of occupations. The factories employ about 1,000,000 persons, but a still larger number is engaged in supplying the needs of this army of workmen and in handling the products. It may be stated as a general principle of geography that the density of population in any country varies according to the opportunities offered for profitable labor.



Plant of the Lackawanna Steel Company at Lackawanna near Buffalo. The upper picture shows a Bessemer crucible in action.

MAP STUDIES.—(1) What five boroughs comprise New York City? Which of them are river? What waters surround the borough of Manhattan? (2) What rivers flow into New York bay? What two flow into Newark bay? What is Jamaica bay? "Kearny bay"? How is New York bay connected with Long Island sound? (3) What islands in New York bay? What three islands in New York bay? What city south of the borough of Brooklyn? (4) What cities on the west bank of the Hudson harbor? What city west of Jersey City? Where is Paterson? Passaic? What larger towns in Westchester county? (5) What three ship channels cross the Lower bay? Where does the factory channel begin? The Swath channel? Where are the'Connor and Chapel Hill Harbours? The New Dorp Light? What is the use of these lights as to guide ships into the right channel when entering the harbor?





Loading bottled milk in an express car for shipment to New York City.

Cities. The metropolis of the western hemisphere, and, next to London the largest city in the world, is **New York**. In 1898 Greater New York was established by an act of the State Legislature, which incorporated into one municipality the old cities of New York City and Brooklyn, with Staten Island and the present boroughs of the Bronx and Queens. The greater city has an area of about 360 square miles, an extreme length of 37 miles and a breadth of nearly 25 miles. It comprises the five boroughs of Manhattan, Brooklyn, Queens, the Bronx, and Richmond.

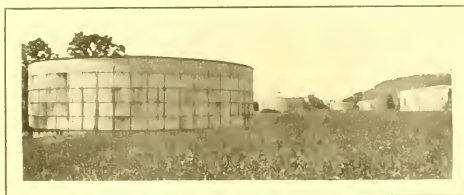
The most striking characteristic of New York City is its advantageous situation for commerce. The harbor includes the Upper and Lower bays, the estuary of the Hudson, and the East River, affording space enough to accommodate the ships of the world. The water-



A group of factories built of concrete, in Brooklyn. Paper goods are manufactured here.

front available for wharfrage is nearly 100 miles in length. The harbor is connected by the East River with Long Island Sound, and with Newark Bay by the Kill van Kull. By way of the Hudson River and various canals leading into it, New York has water communication with the Great Lakes. Several railroads enter the city from the north at the Grand Central Terminal. The Pennsylvania system's passenger terminal also is in the heart of the city and is reached through tubes under the Hudson and East rivers; freight is handled in the Borough of the Bronx and at Long Island City. Other railroads have their terminals in Jersey

City and Hoboken, and transfer their passengers and freight to New York by ferry. These numerous lines of communication are of the greatest importance in making the city a huge market. Local



A field of storage tanks for petroleum near Olean, New York.

transportation is provided for by an extensive system of electric railways, on the surface, in subways, and on elevated structures and viaducts; ferries, bridges, and tubes cross the rivers. The chief lines radiate from the City Hall in Manhattan. Other centers of travel are at the Grand Central and Pennsylvania terminals, at the 23rd Street, the 34th Street, and the 42nd Street intersections with Broadway, and at the numerous railroad terminals along the Hudson River.

The City Government. The government of New York City is a complicated system consisting of many departments employing about 75,000 persons, and costing upwards of \$200,000,000 annually. The executive authority is vested in the Mayor and in the Borough Presidents. The Board of Aldermen is the legislative body and makes laws and ordinances for the city. The city is divided into 73 districts, each of which chooses

one alderman. The judicial department comprises both civil and criminal courts. The civil courts consist of a municipal court of 24 branches, one of which is located in each municipal court district; of the surrogates courts as provided by the State Constitution; and of the City Court, located in Manhattan Borough. The criminal

triate. Some of the magistrates courts are devoted to traffic cases, some to domestic relations cases, and some are children's courts. The higher criminal courts are the courts of general sessions



A relief map of New York City.

courts consist first of city magistrates courts, which sit in different parts of the city in an assigned district; these courts try minor offenses. There are 38 magistrates and one chief magis-



A telephone central office in New York City.

and of special sessions. In each of the five counties comprised within the area of New York City, there is a Surrogates Court, the Supreme Court, and (except in New York County) a county court. There are also courts of the United States in New York City.

The principal officials of the city are elected by the people, but the heads of departments and other administrative officers are appointed by the Mayor. Most of the affairs of the city are entrusted to bureaus and departments, the most important of which are those of Police, Fire, Health, Education, Public Works, Finance, Law, Charities, Correction, Taxes and Assessments, Docks and Ferries, Parks, and Civil Service. The Public Works Department is subdivided into the departments of Public Buildings and Offices, Bridges, Water Supply, Gas and Electricity, Street Cleaning, and Tenement Houses. The Board of Estimate and Apportionment consists of the Mayor, the Comptroller, the President of the Board of Aldermen, and the Borough Presidents; their duty is to make out the "Budget" or estimate of the city expenses for each ensuing year. The Public Service Commission has charge of all public service corporations, such as street railway, telephone, and companies supplying light,



View of lower New-York from Brooklyn.



General view of the Pennsylvania Terminal in New York City.

heat, and power. The Commission has charge of the construction of the subways, which will cost over \$300,000,000. The Department of Water Supply constructs reservoirs and aqueducts to supply the city with pure water. The principal sources



The Croton Reservoir where water is stored for use in New York City.

of water supply are the Croton watershed and reservoir in Westchester County and the Ashokan Watershed in Ulster County. Water is brought from these sources through concrete tunnels to distributing reservoirs, from which it is carried through mains and pipes to every house and building in the city.

Buffalo, the second city in population, is situated on the Niagara River at the foot of Lake Erie. In manufactures and commercial importance it ranks next to New York. The fine harbor at Buffalo, its facilities for transportation by lakes, rivers, canals, and railroads, and its nearness to the coal regions of Penn-

sylvania have contributed largely to the city's prosperity. Lumber, iron ore, and grain are transferred from lake steamers to the canals and railroads for shipment to points farther east, and many of these raw materials are manufactured at Buffalo. It has over 2,000 manufacturing establishments, which produce preserved meats, machinery, metal work and hardware, lumber and furniture, clothing, silk, chemicals, soap, perfumery, boots, shoes,

leather goods, and a long list of other articles. The railroad repair shops employ over 6,000 men, and the total number of persons employed in the manufacturing establishments exceeds 75,000. Many of the factories make use of electric power generated at Niagara Falls.

Buffalo is the second greatest market of the state for grain, flour, live stock, lumber, coal, oil, and iron. Owing to the interruption of navigation by the cataract of Niagara, Buffalo is the eastern terminus of the Great Lakes, and contains many large grain elevators and facilities for storing and handling coal, iron, lumber, and other bulky commodities. The city is handsomely laid out and has about 100 miles of well paved and well kept streets, lined with fine residences and tall business structures.

Rochester, the third city, is on the Genesee River about seven miles from Lake Ontario. The Genesee Falls at this point supply power to the factories, and at one time they served the flour mills for which the city was then famous. To-day, however, flour is an unimportant product. The largest industry is the manufacture of optical



A section of the tunnel which carries water from the Ashokan Dam to New York. Compare the size of the entrance with that of the team of horses.

instruments and photographic apparatus and supplies, employing about 10,000 persons. The products next in importance are clothing and textile goods, boots and shoes, and a variety of metal goods and machinery. The factory employees number about 60,000. Near the city are large nurseries where fruit trees, seeds, and plants are grown. The beauty and extent of the fields and gardens devoted to this purpose have given Rochester the name "Flower City." The Erie Canal, the Genesee River, which is navigable to Lake Ontario, and six trunk lines of railway provide transportation.

Syracuse, the fourth city, is also connected with Lake Ontario by canals and is situated on the line of the New York Central Railroad and Erie Canal. It was once famous for the manufacture of salt, but this industry is now consolidated at Solvay, a suburb of the city. The chief manufactures at present are automobiles, typewriting and registering machines, castings, clothing, boots and shoes, and iron and steel goods. The metal industries employ about 13,000 men, or one-half

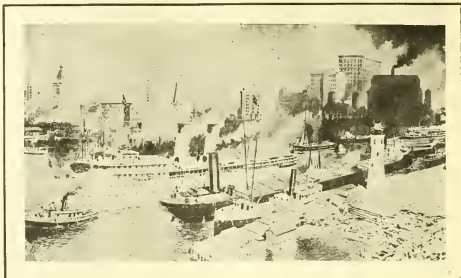


A field of asters on a seed farm near Rochester.

the total factory wage earners. The Syracuse University with over 4,000 students occupies a fine site in the southern part of the town.

Albany. The capital is the second oldest settlement in the state and was originally called Fort Orange. It marks the point where the Indians left the trail from the Mohawk River and embarked with their canoes and beaver skins upon the Hudson. Albany and the neighboring cities of Troy and Cohoes are built where the valley of

the Mohawk River joins the Hudson Valley and hence are midway on the lines of transportation between New York City and the Great Lakes. This fact has insured the growth and prosperity



A part of Buffalo Harbor on Lake Erie.

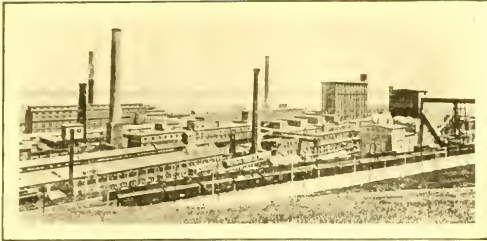
of these cities and many smaller places. The Capitol stands on a hill overlooking the river and is the most expensive and elaborate structure of this kind in the country. The railway repair shops at West Albany are next in importance to those at Buffalo. Other leading industries of Albany are the manufacture of chemicals, men's shirts and white goods.

Cities in the Valley of the Hudson. In the neighborhood of New York there are several large residential cities, some of which have important industries also. Adjoining the metropoli on the north is **Yonkers**, noted for its manufactures of carpets,



Young trees growing in a nursery near Rochester.

rugs, and felt hats, which give employment to about 10,000 persons. It has also machine shops and a sugar refinery. East of Yonkers are **Mount Vernon** and **New Rochelle**, the former noted for silverware and clothing, and the latter for printing and scales. Northeast of New Rochelle on Long Island Sound



Works of the Solvay Process Company, Solvay, New York; salt, chloride of lime, baking soda, and other chemicals are manufactured here from rock salt, limestone, and ammonia.

are **Mamaroneck** and **Port Chester**; the first is noted for rubber and gutta percha goods and the second for hardware, bed linen, and cooking and heating appliances. Other towns in Westchester County are **Ossining**, **Peekskill**, **Tarrytown**, **Hastings**, **Irvington**, and **White Plains**, the county seat. Ossining is the seat of a state prison; Peekskill is noted for clothing, and Irvington for metal goods. This part of the state was the scene of important events in the Revolutionary War. **Brewster** is a railroad center and the chief town in Putnam County; its principal manufactured product is condensed milk. On the west shore of the Hudson opposite Ossining is **Haverstraw**, noted for brick, terra cotta, and other clay products. At the entrance to the gorge which the Hudson has cut through the Highlands, in the midst of beautiful mountain scenery, is **West Point**, the seat of the United States Military Academy.

Middletown and **Newburgh** are the chief cities in Orange County; the first is an important railroad center and has large repair shops; Newburgh's chief products are clothing, woolen goods, engines, and machinery. The Hasbrouck house in Newburgh, which was used by General Washington as his headquarters and was the scene of the disbanding of the Colonial army, is still a favorite resort for tourists.



A game of football in the "Bowl" at Syracuse University.

Fifteen miles north of Newburgh, on the east bank of the Hudson River, is **Poughkeepsie**, with numerous manufactures, chiefly of farm machinery and clothing. Poughkeepsie is the seat of Vassar College and the Hudson River Hospital for the Insane. A railroad bridge crosses the river at this place. Opposite Newburgh is **Beacon**, one of the leading centers where men's hats are manufactured. This city was formed by the union of Matteawan and Fishkill. The leading towns between Poughkeepsie and Albany are **Kingston**, **Catskill**, and **Hudson**. Kingston manufactures tobacco products; Catskill is the distributing point for tourists visiting the Catskill Mountains. A railroad leads from the river to their summits. Hudson, the seat of Columbia County, opposite Catskill, has large cement works and knitting mills.



Factories and office of the Eastman Kodak Company at Rochester.

The largest city north of Albany is **Troy**, the fifth city of the state in the extent of its manufactures. More than one-half of these consist of men's shirts and collars, in which it is the leading city of the United States. Its iron furnaces and steel mills are next in importance. More horseshoes are made in Troy than in any other city in the United States. Among the noted educational institutions of the city, are the Rensselaer Polytechnic Institute, and the Troy Female Seminary, which was established by Emma Willard, and is the oldest school in the state for the higher education of women. Opposite Troy is **Watervliet**, where cannon are manufactured for the United States Army. **Cohoes** is

built near the junction of the Mohawk with the Hudson River. The great falls at this point furnish power for more than 100 factories, which produce cotton, hosiery, and knit goods. This city ranks first in the United States in the manufacture of knit goods. Near the headwaters of the Hudson, where it bends eastward, are **Glens Falls**, **Fort Edward**, and **Hudson Falls**, all of which manufacture wood pulp and paper from timber brought from the forest regions farther north. Glens Falls ranks first in paper and has also large shirt, collar, and other clothing industries. **Saratoga Springs** and **Ballston Spa**, on the west side of the Hudson,

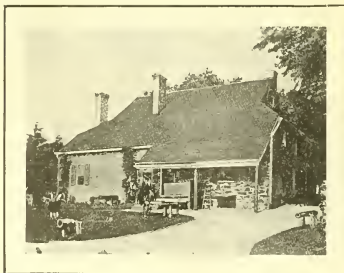


Clay beds at Roseton, New York. Notice the manner of quarrying the clay from successive terraces, thus accommodating a great many laborers at one time.



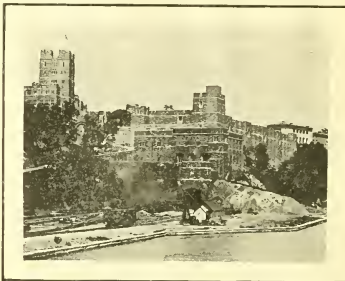
Brickyards near Haverstraw. After the bricks come from the molding and pressing machine they are placed in the sun to dry before baking.

are both noted watering places. **Mechanicville** and **Waterford** are noted for knit goods; the first-named



The Hasbrouck house at Newburgh, New York.

town has also paper mills and railway repair shops. **Cities of the Mohawk Valley.** At the foot of this valley is Cohoes, the terminus of both the Erie and



View of the West Point Military Academy.

Champlain canals. A few miles west of Cohoes is **Schenectady**, a city of 90,000 inhabitants, which owes its rapid growth to the extraordinary development of its manufactures of electrical apparatus and locomotives. These are the chief industries of the city and employ over 20,000 people. Schenectady is the seat of Union University, the second oldest college in the state. Farther west lies **Amsterdam** with its cotton and hosiery mills and carpet factories, which employ nearly 10,000 people; silk goods, brooms, and buttons are also made in Amsterdam. The chief manufacturing towns of Fulton County are **Johnstown** and **Gloversville**; the latter manufactures more than half the gloves and mittens made in the United States. **Little Falls**, on the Mohawk River, has magnificent water power, which is utilized in its cotton and hosiery mills. A few miles farther west is **Ilion**, the leading town in the manufacture of typewriting machines and fire arms. Near the headwaters of the Mohawk in Oneida

County are **Utica** and **Rome**. **Utica** is a leading city in cottons and knit goods; **Rome** leads in brass and bronze. **New York Mills**, near **Utica**, has the oldest cotton mill in the state. **Oneida County** is a productive fruit and vegetable region and supplies raw material to numerous canneries. A canal hav-

west of **Syracuse** at the foot of **Oswego Lake** is **Auburn**, a flourishing manufacturing city and the seat of a state prison. The chief products of its factories are agricultural machinery, cordage, boots, and shoes. **Geneva** is built at the foot of a lake and is noted for its nurseries and its agricultural experi-



Sorting and packing collars in a factory at Troy.

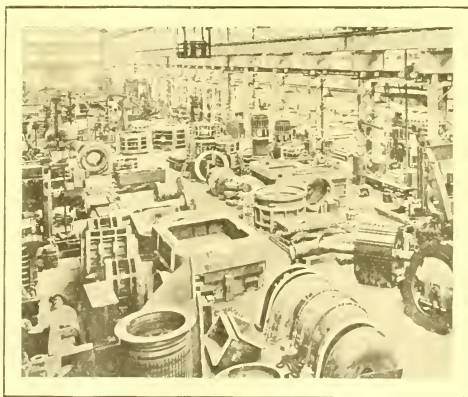
ing its eastern terminus at **Rome** connects the **Mohawk River** with **Oneida Lake**.

Cities of the Lake Plain. The principal cities of the **Lake Plain** are **Buffalo**, **Rochester**, and **Syracuse**. Near the eastern edge of the **Plain**, a few miles west of **Utica**, is **Oneida**, the most important town in **Madison County**. It is situated on a branch of the **Eric Canal** and on several railroads. Among its manufactures, caskets, tobacco products, and hardware are the most valuable. Nine miles distant is the beautiful **Oneida Lake** and near by is the social organization known as the **Oneida Community**. Near **Oneida** is the village of **Canastota**, where vehicles of various kinds are made. The village of **Hamilton** is the seat of **Colgate University**. **Fulton** is built along the canal connecting **Syracuse** with **Oswego**; it is a flourishing town devoted to the manufacture of woolen and worsted goods, paper, and firearms.

Oswego is an important port of entry on the southeastern shore of **Lake Ontario** at the mouth of the river and canal of the same name. It is also the terminus of three important railroads. The town stands on rising ground on both sides of the river, which is spanned by three bridges. A fall of 34 feet affords water power for manufacturing industries in which about 5,000 people are employed. The chief products are, starch, matches, engines, cottons, and hosiery. There is a state normal school at **Oswego**. **Fort Ontario**, near the city, recalls important events in the colonial wars. About 25 miles

East of **Geneva** is **Seneca Falls** with its engine and boiler works, and northward along the line of the **New York Central Railroad** is **Lyons** with its canneries and silk mills. On **Canandaigua Lake** west of **Geneva** is **Canandaigua**, a summer resort and a center for the canning industries. South of **Geneva** in **Yates County** is **Penn Yan** on **Keuka Lake**. The shores of this lake are literally covered with vineyards, for this is the second largest grape region of the state.

The principal towns west of the meridian of **Rochester** are **Niagara Falls**, **Lockport**, **Batavia**, **North Tonawanda**, **Tonawanda**, and **Medina**. **Niagara Falls** is a flourishing city that has grown up beside the great cataract. The power supplied by the falls has encouraged the building of factories, of



One of the shops of the General Electric Company at Schenectady, where dynamos are put together, or "assembled."

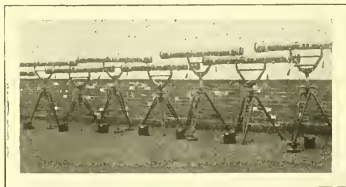
which there are 167, employing more than 12,000 persons. The chief products are chemicals, electrical apparatus, silverware, and carborundum, a substance used for grinding and polishing. The enormous power of the falls has been utilized also for developing electricity. Water has been ad-

mited into tunnels above the falls and flows through a series of turbine water wheels. These wheels are connected with the dynamos, and the current of electricity is carried to the neighboring cities for purposes of lighting, manufacturing, etc. **Lockport** takes its name from the great canal locks at this point. It is a manufacturing town producing paper and pulp and various articles of hardware. **North Tonawanda** is noted as a lumber market, and manufactures lumber products, silk goods, and machinery. **Batavia**, the most important town in Genesee County, is the seat of the state asylum for the blind, and manufactures farm machinery and lumber products. **Albion** and **Medina** are the principal manufacturing towns in Orleans County; both are noted for their canning industries.

Important Towns in the Plateau Region. The largest city in this section is **Binghamton**, standing at the junction of the Susquehanna and Chen-



Congress Spring Park at Saratoga Springs.



Testing range-finders on the roof of a factory at Rochester. These instruments are used in sighting guns and rifles for long distances.

ango rivers and at the intersection of several lines of railway. It has large railway repair shops; is a market for coal, lumber, and flour; has extensive manufactures of boots and shoes, cigars and tobacco, and has a variety of iron and steel goods. The state hospital for the insane is at Binghamton.

The shoe factories at **Johnson City** and **Endicott**, near the city of Binghamton, are among the largest in the country. Port Jervis, at the intersection of the Delaware and Neversink rivers, is noted as a pleasure resort. Near by is the famous Delaware Water Gap. The town has numerous manufacturing industries. **Elmira** is a railway center and the seat of Elmira College for women and of a state reformatory. It manufactures automobiles, cotton goods, and structural iron. North-east of Elmira at the head of Cayuga Lake is **Ithaca**, the seat of Cornell University and the State

Agricultural College. The scenery in this vicinity is picturesque with waterfalls and canyons. The chief industries of **Ithaca**, are printing, book-making, and iron work. **Cortland** has large steel mills, and **Norwich** is the center of dairying industries. In the southwestern part of the state are several large and important cities. **Hornell** is noted for its silk mills and **Corning** for its glass work. **Olean** is in the oil regions, which extend into the state from Pennsylvania. Its products are chiefly oil, clay, and glass. It has large railway repair shops. **Jamestown**, the largest city in the southwestern part of the state, manufactures furniture and woolen goods. It has also many printing establishments. **Dunkirk** on Lake Erie has large locomotive works. A famous town in this section is **Chautauqua**, the meeting place of the Chautauqua Assembly, a popular summer school.

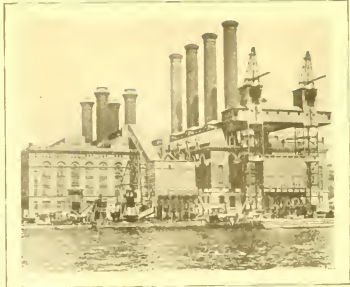
Towns of Northern New York. The largest city in this section is **Watertown** on the Black River. This river supplies power for the pulp and paper



View of the Remington Arms Company, at Ilion, N. Y., where typewriters and rifles are manufactured.



Generator room of the Niagara Falls Power Company.



A power house of the New York Edison Company on the East River.

mills of the city, and for other factories, producing engines, machinery, and various railway supplies. Watertown has numerous printing establishments. **Ogdensburg** is on the St. Lawrence River at the mouth of the Oswegatchie Creek, which supplies power for its lumber mills. **Plattsburg** is the principal city on Lake Champlain and is a lumber and paper center, and the seat of a state normal school. **Potsdam** also has a normal school and **Malone** is the seat of the New York Institute for Deaf Mutes. Many towns in this section are devoted to the manufacture of lumber products, pulp, and paper (see statistical table).

History. The Hudson River Valley and the islands bordering New York Bay were discovered and settled by the Dutch (1609-1623). In the latter year Manhattan Island was purchased from the Indians, and a little later the territory bordering the Hudson was granted, in vast estates, to the "Patroons." The colony was ruled by the Dutch West India Company, and an extensive trade in furs was carried on with the Indians. As

the governors sent out by the company were autocratic, the people had little liberty. Peter Stuyvesant, the last and best of the Dutch governors, was nicknamed the "Czar of Muscovy," on account of his haughty behavior. The surrender of the colony to the English in 1664 was merely an incident in the long wars waged by England with Holland. Under English rule, a little more liberal form of government was established and the New York colony increased rapidly in population and wealth. The settlements were pushed westward from Albany and peaceful relations were established with the powerful Indian tribes who held the central and western parts of the state. There are still about 5,000 Indians in the state who live on reservations (see page 45).

During the Revolution, and in the earlier colonial wars, New York was the scene of many important military events. The most noted of these were the battles of Oriskany and Saratoga, and the subsequent surrender of General Burgoyne. After the Revolution, the state was developed rapidly by settlers from New England as well as from Great Britain, France, and Germany. During the war of 1812, a series of military operations was conducted along the borders of New York to check invasion from Canada. The naval victories on Lake Erie and Lake Champlain contributed largely to the successful outcome of this war. The later history of the state is closely associated with the development of its lines of transportation.

Government. The Constitution describes the manner in



New Amsterdam in the time of Peter Stuyvesant.

which the state shall be governed. The one now in force was adopted by the people in 1894, and has since been amended in some particulars. It



Drying fruit in the sun in Wayne County.

is divided into fifteen articles and 154 sections, each section dealing with some particular topic. Article I has nineteen sections treating of personal and property rights. We may call this



Making cut glass articles in the Hawkes Works at Corning.

article a "Bill of Rights," since it guarantees the right of trial by jury, freedom of worship, the right of habeas corpus, freedom of speech and of the press, and the right to assemble and petition the government. It provides also for the payment of damages to workmen injured through the carelessness of employers.

The Right to Vote. Article II describes the qualifications of voters. Every male citizen twenty-one years of age, who has been a citizen for ninety days, an inhabitant of the state for one year next preceding an election,

four months a resident of the county, and for thirty days a resident of the election district, is entitled to vote. No person shall be allowed to vote who has either given or accepted any money or other valuable thing for the purpose of either giving or withholding votes at any election. Other provisions deal with the right to vote of those engaged in the army or navy service, or of those who have been temporarily absent from the state. This Article provides also for the registration of voters and the conduct of elections.

The Legislature and Its Powers. Article III describes the two branches of the Legislature (the Senate and the Assembly), the manner in



Cornell University and Cayuga Lake.

which laws are made, and the various subjects about which they may be made. The state is divided into fifty districts, each of which chooses one senator for a term of two years, and into 150 smaller districts, each of which chooses one assemblyman for one year. The boundaries of all these districts are given in the Constitution. Each member of the Legislature receives a salary of \$1,500 annually. Any bill may originate in either house, and it may be amended or changed by the other house. Every bill must receive a majority of the votes of each house and be signed by the Governor before it can become a law. Some bills must receive a two-thirds vote.



The Johnson shoe factories at Johnson City, near Binghamton; this is perhaps the largest single plant in the country, employing about 12,000 people.

The Executive Branch. Articles IV and V describe the executive division of the government. The Governor is the chief executive, and together with the Lieutenant-Governor, the Secretary of State, Comptroller, Treasurer, Attorney-General, and State Engineer and Surveyor, is elected for



The State Capitol.

two years and receives an annual salary of \$10,000. The Governor is Commander-in-Chief of the State National Guard, and he may summon the Legislature in special session. He signs or vetoes all bills passed by the Legislature and may pardon, convict, or otherwise alter a sentence passed by the courts. The Legislature may pass a bill over the Governor's veto by a two-thirds vote. The Lieutenant-Governor presides over the Senate and succeeds to the governorship in case of the death of the Governor or his inability to perform the duties of the office.

The Secretary of State has charge of the records of the government. The Comptroller superintends all matters relating to money, and the Treasurer receives and pays out all money belonging to the state. The Attorney-General is the state's lawyer, and may prosecute and defend all legal actions in which the state is a party; he is also a member of various state boards. The State Engineer and Surveyor has charge of all engineering carried on by the state except that relating to highways; he is a member of the Canal Board and other commissions.

Other Executive Officers. Besides the officers elected by the people, there are many who are appointed by the Governor to take charge of various public affairs. The Governor appoints a commissioner of agriculture and various boards and trustees who have charge of the state schools of agriculture and other industries. The Governor appoints a

superintendent of banking, a state board of charities, and the chief officers of all the prisons, reformatories, and charitable institutions. The Governor appoints also a civil service commission, a conservation commission, a state superintendent of elections, a commissioner of excise, a commissioner of foods and markets, health officers, a highway commissioner, a labor commission, a public service commission, and a host of others as provided by the Constitution and laws.

The Judicial Department. The Constitution provides for a system of courts and for the election of judges. Some of these courts, such as the Court of Appeals and the Supreme Court, have jurisdiction throughout the state, while others are restricted to cities, counties, or rural townships. **The Court of Appeals** is the highest court; it consists of a chief judge and six associate judges elected for fourteen years by the people of the state. This court is held at Albany, and its duty is to review decisions made by lower courts. **The Supreme Court** derives its name from the fact that when established (in 1777) it was the *highest* court in the state; but appeals may now be taken from its decisions to the Court of Appeals, (established in 1846) after first being reviewed by a special branch of the Supreme Court known as "appellate division." There are four appellate divi-



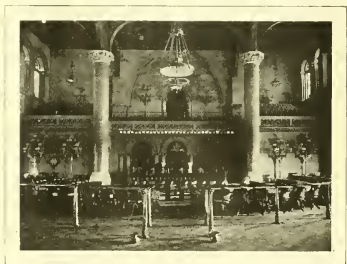
The Court of Appeals Chamber in the Capitol. Portraits of former judges of this court may be seen upon the walls.

sions, one in each of the four judicial districts of the state. The judges of the Supreme Court are elected by the voters of the judicial districts, for a term of fourteen years, each district choosing a certain number as provided by the legislature. There are at present 106 Supreme Court judges apportioned among the counties according to population and to the amount of business to be done. The Supreme Court in the person of

one or more of its judges, sits at least part of the year in each county, and continuously in the more populous counties.

County and Town Courts. The electors of each county choose one or more judges who hold office for a period of six years; they may choose also a special judge called a surrogate, who has the power to hear and decide matters concerning wills and intestate estates. Where there is no surrogate, the county judge has charge of these matters. One or more justices of the peace are chosen by the electors of each township for a period of four years; these justices have jurisdiction over petty civil and criminal matters. In general, the jurisdiction of a court depends upon the amount of money involved, in civil cases, and on the nature of the offense, in criminal cases.

The Remaining Articles. Article VII treats of the power of the state to incur debts, and describes the various purposes for which debts may be incurred. Among such purposes are the construction of canals, and the building of highways. Article VIII treats of corporations, such as banks, counties, cities, towns, villages, and also of certain state boards. Article IX deals with public education. Article X treats of county officers and other officers not elsewhere provided for. Article XI treats of the State Militia, which comprises all able-bodied citizens between the ages of eighteen and forty-five



The Assembly Chamber in the Capitol.

years. Article XII treats of the organization of cities and villages. Article XIII prescribes the oath of office for the members of the Legislature, prohibits bribery and corruption, and forbids the acceptance of free passes over railroads or the use of the postal service. Article XIV provides for amendments to the Constitution and for the making of new constitutions. The last Article fixes the date when the present Constitution became effective.

State Institutions. The penal institutions consist of state prisons at Ossining, Dannemora, and Auburn; reformatories at Napanoch, Elmira, and Bedford; penitentiaries, houses of refuge, workhouses, and jails, in the several counties. Besides these there are numerous asylums,



A corner of the Governor's room in the Capitol. Ex-Governor Charles E. Hughes is seated at the desk.

industrial schools, and benevolent institutions for the unfortunate of every class.

Education. The educational system includes elementary schools, high schools, and colleges and universities; various scientific, technical, and professional schools; normal schools and training classes for teachers; public libraries, museums, and associations connected with the arts and sciences. The smallest unit is the rural school district, of which the state contains 10,498. The districts of each township are under the control of a town board of education. Villages of 1500 population and all cities may have separate boards. The school districts are also grouped into 189 larger districts, each under the charge of a district superintendent.

The number of pupils enrolled in the elementary schools is about 1,900,000. Next above the elementary schools are the public high schools and private academies, which number about 950, attended by about 170,000 pupils.

Higher Education. The state has 22 normal and training schools for teachers, besides over 100 normal classes maintained in the high schools and academies, with a total of nearly 10,000 students. By means of these schools and classes, competent teachers are secured for the public schools. At the top of the educational system stand the 33 colleges and universities scattered



The main buildings of Fordham University,
New York City.

throughout the state; 17 of these are for men, 9 are for women, and 7 admit both sexes. The larger colleges have departments of law, medicine, the-



A part of the campus and buildings of Columbia
University.

ology, education, and engineering; other professions such as dentistry, pharmacy, accounting, art, music, and library science, besides technical and business education, are usually provided for by special schools.

HIGHER INSTITUTIONS OF LEARNING IN NEW YORK STATE

Colleges for Men. Canisius College, Buffalo; Colgate University, Hamilton; College of St. Francis Xavier, Brooklyn; The College of the City of New York; Columbia University, New York; Fordham University, New York; Hamilton College, Clinton; Hobart College, Geneva; Manhattan College, New York; New York University; Niagara University, Niagara Falls; St. Bonaventure's College, Allegany; St. Francis College, Brooklyn; St. John's College, Brooklyn; St. Joseph's Seminary and College, New York; St. Stephen's College, Annandale; Union University, Schenectady.

Colleges for Women. College of Mount St. Vincent, New York; College of New Rochelle; Barnard College (Columbia University); D'Youville College and Academy of the Holy Angels, Buffalo; Elmira College; Hunter College, New



College of the City of New York.

York; Vassar College, Poughkeepsie; Wells College, Aurora; William Smith College, Geneva.

Colleges for Men and Women. Adelphi College, Brooklyn; Alfred University; Cornell University, Ithaca; New York State College for Teachers, Albany; St. Lawrence University, Canton; Syracuse University; University of Rochester.

Normal Schools. Brockport, Buffalo, Cortland, Fredonia, Geneseo, New Paltz, Oneonta, Oswego, Plattsburg, and Potsdam. **Teachers' Training Schools** are established at Albany, Buffalo, Cohoes, Jamestown, New York, Brooklyn, Jamaica, Rochester, Schenectady, Syracuse, Watertown, and Yonkers.



Rochester University.

Schools of Law. The universities of Columbia, Cornell, Fordham, New York, St. Lawrence, Syracuse, Union, and Buffalo have departments of law; the New York Law School is located in that city.

Schools of medicine are established at Columbia, Cornell, Fordham, New York, Syracuse, Union, and Buffalo universities. The Long Island College Hospital is in Brooklyn; New York Homeopathic Medical College is at the Flower Hospital; New York has also the Bellevue Hospital Medical College, the Post Graduate Medical School and Hospital, the Polytechnic Medical School and Hospital, and the New York Medical College and Hospital for Women.

Schools of theology are conducted at Alfred, Colgate, Rochester, and St. Lawrence universities; other theological schools are: Auburn Theological Seminary, General Theological Seminary, at New York, Martin Luther Seminary at Buffalo, Hartwick Seminary, Jewish Theologic Seminary at New York, Seminary of Our Lady of Angels at Niagara, St. Bernard's Seminary at Rochester, St. Bonaventure's Theological School at Allegany, St. John's Theological School in Brooklyn, and St. Joseph's Seminary at Yonkers.

Schools of education are established at Columbia, Cornell, New York and Syracuse universities, **Schools of pharmacy** are maintained at Columbia, Fordham, Union, and Buffalo universities; Brooklyn has a College of Pharmacy. There are two **schools of dentistry** in New York City and one in Buffalo. **Veterinary schools** are attached to Cornell and New York universities. Rochester has a **School of Optometry**; New York has a **School of Chiropody**. The Pratt Institute of Brooklyn has a **School of Library Science**, and similar schools are maintained also at the New York Public Library and at the State

Technology at Potsdam. The principal **schools of music** in the state are the American College of Musicians, the American Institute of Applied Music, the Grand Conservatory of Music, the Institute of Musical Art, the Trinity Church Organ School, and the College of Music, all of which are in New York City; there are also conservatories of music at Portland and Ithaca. The chief **schools of art** are



State College for Teachers, at Albany.

the Cooper Union Art School and the School of Applied Design for Women in New York, and the College of Fine Arts at Syracuse University. Other institutions of note are the schools of Agriculture and Clay Working at Alfred University, the schools of Architecture and Journalism at Columbia University, the colleges of Architecture and Agriculture at Cornell University, the colleges of Forestry and Agriculture at Syracuse University, the School of Commerce, Accounts, and Finance at New York University, the School of Agriculture at St. Lawrence University, the New York Ophthalmic Hospital, and Pratt Institute, Brooklyn, which maintains departments of Fine Arts, Domestic Art, Domestic Science, Science and Technology, Kindergarten, and Libraries.

Agriculture and Trade Schools. A new and important feature of the state's system of education is the provision made for the study of agriculture and the trades. State agricultural schools are maintained at Cornell, Alfred, and St. Lawrence universities, and there are special schools at Morrisville, Farmingdale, Cobleskill, and Delhi. Cornell is the State College of Agriculture, and the State Agricultural Experiment Station is at Geneva. Students may begin the study of agriculture in special classes maintained in 63 of the public high schools. There are 89 agricultural societies scattered throughout 59 of the counties, for the maintenance of which the state appropriates annually \$250,000.

The majority of the members of these societies are farmers; both the state government and the national government supply them with official information regarding the best methods of raising farm crops and farm animals.



St. Joseph's Seminary and College at Yonkers, New York.

Library at Albany. **Schools of engineering and technology** are maintained at Columbia, Cornell, New York, and Syracuse universities; besides these there are the Rensselaer Polytechnic Institute at Troy, the Polytechnic Institute of Brooklyn, Sibley College at Ithaca, and the Clarkson College of

There are now 52 vocational and industrial schools attended by over 2,500 boys and girls, who are given a chance to learn for what calling in life they are best adapted, and who are given a start in the occupations of their choice. There are a dozen or more schools for the blind, the deaf, and the feeble-minded, and for the reformation of those who are disposed to evil ways.¹

Board of Regents and Examining Board. The head of the public educational system is the Board of Regents, consisting of twelve members elected by the State Legislature to serve for twelve years. The Board, together with its executive officers, is known as "The University of the State of New York." The State Commissioner of Education is elected by the Board and is one of its members. He is the active head of the educational system, and receives an annual salary of \$10,000. His staff consists of three assistants and fourteen directors of various de-

partments. The Board of Regents, through its boards of examiners, examines all applicants for teaching in the public elementary schools, all students in the secondary schools, and all students



The New York State Education Building at Albany, where all business concerning public education is transacted.

of medicine, dentistry, pharmacy, and accounting, besides nurses, veterinarians, and others; and issues diplomas and licenses to such as are qualified.

¹ Handbook Number 24, published by the University of the State of New York, contains a complete directory of all the public educational institutions of the state.

REVIEWS AND STATISTICS

Introductory. (1) Of what is the United States composed? (2) In what way does a state resemble the nation? (3) What are boundaries? (4) What powers do the people of a state have? (5) To what group of states does New York belong? (6) Describe its rank as compared with other states. (7) How did it acquire its title "Empire State"? Do you think that it will always retain this title? Give reasons.

Location, Form, and Size. (1) Describe the location of New York and name the states and country which border it. (2) Describe the boundaries more exactly. (3) Give the general location in latitude and longitude. (4) What is the exact location of Albany? Of New York? (Give latitude and longitude in degrees and minutes.) (5) Indicate the approximate shape of New York by drawing nine straight lines of the proper relative lengths and directions.

Physical Geography. (1) Give the three general surface divisions. (2) To what system do the highlands belong? (3) How do we know that the highlands are very old? (4) What is meant by "island mountains"? (5) What is said of the rocks of the Adirondacks? (6) What is their general elevation? (7) Name the two highest peaks. (8) Name some of the Adirondack lakes noted for fish and game. (9) Why has the state purchased large forests areas in the highland region? (10) How does the state get an income from its forest reserves? (11) Where are the Catskill Mountains? (12) Name two peaks that exceed 4,000 feet in height. (13) What is said about the scenery of the Catskills? About the forest reserves? (14) What other forest reserves and parks does the state own? (15) Describe the Plateau Region. (16) What is said of its valleys? (17) What large rivers have their sources in the plateau? (18) What are the Finger Lakes? (19) Name the five most important. (20) For what are these lakes useful? (21) What highlands are found in the eastern part of the state? (22) Which of these is crossed by the Hudson Valley? What is said of the Hudson gorge? (23) What are the Palisades? (24) Name the four chief lowland regions. (25) For what is the Hudson-Champlain Valley noted? (26) Describe the Central Valley. (27) Why has it been of great importance in the development of the state? (28) Where is the St. Lawrence Valley? (29) What is thought to be the origin of the Lake Plain? Of the Atlantic Plain? (30) Name the five principal drainage systems. (31) What is said of the Genesee River? (32) What river is the outlet of the Finger Lakes? (33) Name the principal streams of each drainage system. (34) Which river of the state is the largest and most useful? (35) Describe the Hudson River, beginning with the source and tracing it to the ocean. (36) What are the chief features of New York scenery? (37) Describe Niagara Falls. (38) What other important waterfalls in the state? (39) Name some natural curiosities. (40) Which part of New York has the mildest climate? The coldest climate? (41) How do you account for the climate of the Lake Plain? (42) What is the average rainfall? (43) Explain the effect of glaciers on the soil of the state. (44) How has the soil been affected by running waters? (45) In what way did the glacier cause lakes and waterfalls? (46) Where are extensive forests found? (47) Name the chief varieties of trees. (48) What wild animals are common? (49) What game birds are found? (50) How are hunting and fishing regulated?

Industries; Agriculture. (1) Why are the farm products varied? (2) How does farming compare with other industries? (3) Where is the best farming country? What are the chief products of the lowland regions? (4) What do the lighter soils produce? (5) Why are farmers better off now than they were a few years ago? (6) What has stimulated dairying and truck farming? (7) Describe the extent of the dairying industry. (8) What is said of the canning industry? (9) What section leads in apples? In grapes? (10) What county leads in peaches? (11) Describe the rank of New York in fruit-growing, dairying, and in cereals. (12) What is meant by mixed farming, and why is it profitable?

Fisheries and Minerals. (1) In what three sections is fishing a profitable industry? (2) Name the chief varieties of sea fish, lake fish, river fish, and shell fish. (3) What is the most valuable mineral product, and where found? (4) How does New York rank in clay industries? (5) Where is brick-making carried on? (6) What two cities lead in pottery? (7) What kinds of building-stone are found? (8) What uses has limestone? (9) Where is cement rock found? (10) What county yields slate? (11) What is bluestone, and where found? (12) Name some uses made of sand. (13) What state exceeds New York in salt output? (14) In what counties is salt rock found? (15) Where is the largest salt mine in the state? (16) Why is brine a more convenient source of salt than rock? (17) What products are made at Solvay from salt, limestone, and other materials? (18) Name some places where brine is obtained. (19) What is graphite, and for what used? (20) In what counties are mineral springs found? (21) Name four towns noted for medicinal springs. (22) Where is gypsum found, and for what is it used? (23) What counties yield petroleum? Natural gas? (24) Name other minerals found in the state and describe how they are useful.

Transportation. (1) Where are the chief natural high-ways of New York? (2) What is meant by calling New York City a gateway? (3) What is meant by "portages"? (4) Describe the routes of trade followed by the Indians and early colonists. (5) What was the first improvement made in transportation? (6) How did the Erie Canal affect the cost of transportation? (7) Name the most important canals in the state. (8) What invention brought the building of canals to a close? (9) Where is the oldest railroad in the state? (10) What is the most extensive railroad system in the state? (11) Name some of the important connections made by the New York Central. (12) In what part of the state does it have the greatest number of tracks? (13) Why does New York Central carry more of the state's products than any other road? Name some of these products. (14) Describe the main route of the Erie Railroad in New York. (15) What is the chief commodity carried by this road? (16) Give the location of the main line of the Delaware & Hudson Railroad. (17) Name some of the noted places along this route. What are the chief products carried? (18) To what system does the Long Island Railroad belong? Name its chief branches. (19) What products are carried by the Long Island Railroad? (20) What lines has the Pennsylvania System in the western part of the state? (21) Describe the main lines of the Lackawanna Railroad. (22) Why does it carry so much coal? (23) Give the location of the Lehigh Valley lines in New

York. Of what does their freight chiefly consist? (21) Name some of the towns reached by the New York, Ontario & Western. What are its chief freights? (25) Name some important fact about each of six other railroad systems in the state. (26) Mention some of the lines operating less than 100 miles of track. (27) How many miles of electric roads are in operation? (28) Name two leading companies and describe their lines. (29) In what part of the state outside of the cities, do we find the greatest number of electric roads? (30) How have the numerous railroads affected canal traffic? (31) Why are public highways more important than other means of transportation? (32) Describe the method of building state roads.

Manufactures. (1) What was the value of our manufactures in 1910? In how many industries did New York stand first among the states? (2) What causes determine the distribution of manufactures? (3) Why are so many kinds of workmen found in New York City? (4) What are the most important manufactures of the City? (5) Where are the sugar-refining and oil-refining industries located? (6) Why is a great seaport likely to become a manufacturing center? (7) Where are the lumber and paper industries located? (8) What industries would be most likely to be affected by the cost of land and power? (9) What industries would be most affected by convenience in assembling raw materials?

People and Cities. (1) Give a reason for the density of population in New York. (2) What proportion of the people live in cities? (3) How can you explain the rapid increase of city population? (4) When was Greater New York established? Name its five boroughs. (5) What causes can you give for the wonderful growth of New York City? (6) Tell something about its transportation facilities. (7) How is New York connected with other parts of the country? (8) Name some of the famous trade districts of the city. (9) Name the principal colleges of New York City. (10) Mention some of the other public institutions, parks, churches, etc. (11) Who is the chief executive of the city government? (12) What body makes laws and ordinances concerning the city? (13) How are public officials chosen? (14) Name some of the important bureaus and departments of the city government. (15) What can you tell about the duties of some of these departments? (16) Where and how does the city obtain water? (17) Why is Buffalo favorably located for manufactures and commerce? (18) Name some of the leading manufactures. (19) For what products is Buffalo a noted wholesale market? Tell from what section of the country each of these products is brought. (20) Describe the location of Rochester. (21) What advantages has it for manufacturing? (22) What is the largest industry of the city to-day? Name other important industries. (23) Why has Rochester been called the "Flower City"? (24) What lines of transportation has Rochester? (25) Describe the location of Syracuse. (26) Name its leading manufactures. (27) Where is the salt industry now located? (28) How many men do the metal industries employ? (29) What was the original settlement made on the site of Albany? (30) What advantages of location have Albany and the neighboring cities? (31) What are the leading industries of Albany? (32) Make a list of the leading cities in the valley of the Hudson River; describe the location of each, and mention the principal manufactures and other points of interest. (33) Which of these cities are noted for educational institutions? (34)

Which of them are noted for one class of manufactures only? (35) Which of them are noted for mineral springs? (36) Make a list of the principal cities in the Mohawk Valley; describe their location, and mention the chief manufactures and other points of interest about each. (37) Which is the largest city along the Mohawk? (38) Make a list of the principal cities of the Lake Plain, describe the location of each, and mention its principal manufactures and other points of interest. (39) Which of these places is noted for its university? (40) From what does Lockport derive its name? (41) Make a list of the important towns in the Plateau region, describe the location of each, and mention the principal manufactures and other points of interest. (42) Which is the largest city of this section? (43) What two towns near Binghamton are noted for shoes? (44) Make a list of the important towns of northern New York, describe the location of each, and mention the principal manufactures and other points of interest.

History. (1) Who were the first discoverers and settlers in the Hudson River Valley? (2) How was the land along the river divided? (3) What can you say of the rule of the Dutch government? (4) When did the English take possession of the colony? (5) What Indian tribes had possession of the central and western parts of the state? What now remains of these tribes and where do they live? (6) What events of the Revolutionary War took place in New York State? What events of the War of 1812?

Government. (1) What instrument describes the government of the state? (2) Into how many parts is the Constitution divided? (3) What subjects are treated in Article I? (4) What subjects are treated in Article II? (5) Summarize the contents of each of the remaining articles of the Constitution. (6) Describe the method of making laws. (7) Name some of the duties of the Governor. (8) Name some of the duties of each of the other elected state officers. (9) Name some of the officers and boards appointed by the Governor, and describe their duties. (10) Name the state courts. (11) How are the judges for these courts chosen? (12) Describe the courts of the county and town. (13) For what purposes may the state borrow money? (14) What is meant by the State Militia? (15) Name some of the public institutions belonging to the state.

Education. (1) What grades of schools are included in the educational system? (2) What is the smallest unit in this system? Name the officers of a school district. (3) What are the duties of a district superintendent? (4) What schools are next above the rural and elementary schools? (5) What schools are provided for training teachers? (6) How many colleges and universities in the state? What professional departments do some of these have? (7) Name some of the colleges for men, some of those for women, and some which admit both sexes. (8) What provision is made for teaching agriculture? (9) Name some of the towns which have agricultural schools. (10) What work is done by the agricultural societies? (11) What other kinds of schools belong to the state system? (12) What is the Board of Regents? What officer is at the head of the State Educational System? (13) What examinations are conducted by the Board of Regents?

Suggestions and Problems. (1) The first settlement on Manhattan Island was made for the purpose of trading with the Indians; why was the location favorable to this trade? (2) Can you explain why the valley of the Hudson

and the Central Valley are the most thickly settled parts of the state? (3) Name the industries that are apt to grow up along lines of transportation, but which would be impossible without these transportation routes. (4) Why are the cheese factories and creameries of the state in the far northern and western parts rather than in the central and eastern parts? (5) What industries of New York are favored by the navigable water boundaries? (6) Compare the advantages of the Adirondack and the Catskill Mountains for entertaining summer visitors. (7) What advantages has Long Island for truck farming? (8) What advantages came to New York through the action of the great glacier? (9) Judging from the surface features of the state, where do you think railroads would naturally be built first? What considerations led to the building of railroads? (10) Can you think of any way in which railroads have helped to increase manufacturing? (11) What manufacturing industries would naturally spring up in the northern part of the state? In the western part? Along the lakes? (12) What conditions along the Hudson River have favored the manufacture of brick and tile? (13) What manufactures have grown up in New York City which would be difficult in an inland town? (14) What manufactures depend less on location than on the ability to obtain skilled labor? (15) What conditions favor the tanning industry? The ice industry?

The wood pulp and paper industry? (16) What parts of the state are especially devoted to canning and preserving? Can you give any reason for this location? (17) Why did the building of the Erie Canal make New York the metropolis of the country? (18) Why is it difficult to build railroads in an air line? Why is it usually unprofitable to do so? (19) What advantages for growth has Buffalo that are not enjoyed by Albany? (20) What natural advantages favor cotton industries? (21) What advantages favor the manufacture of clothing? (22) Why do you think Gloversville is entirely devoted to the manufacture of gloves and mittens? (23) What conditions are favorable to the quarrying industry? (24) What parts of the state furnish the most milk for city use? (25) Suppose you wished to establish a nursery or seed gardens; in what part of the state would you find the best location? (26) Describe several ways in which you might travel from New York to Buffalo. (27) By what railroads could you go from Plattsburg to Binghamton by way of Syracuse? (28) How could you go by water from New York City to Thousand Island Park? (29) What products would you expect to find on boats coming from Canada by the canals? (30) What products would you expect to find on railroads running from Pennsylvania to the manufacturing cities of New York?

INCORPORATED CITIES OF NEW YORK AND STATISTICS

Cities	Population State Census 1913	Leading Facts and Products			
Albany	107,979	Metals, machinery and conveyances, clothing, millinery, printing.	Newburgh	27,876	Men's tailoring, engines, boilers, wool and felt hats, woolens.
Amsterdam	34,319	Cottons, woolens, hosiery and knit goods, carpets and rugs.	New Rochelle	31,758	Printing and books, scales, meters, house trim.
Auburn	32,408	Agricultural machinery, eorpage and twine, boots and shoes.	New York	5,047,221	Clothing, printing, meat-packing, casting machines, tobacco.
Batavia	13,278	Farm machinery, lumber products, boots and shoes, canning, sheet iron.	Niagara Falls	42,257	Chemicals, electrical apparatus, silverware, abrasives, pulp, paper.
Beacon	10,165	Men's hats, clay products, rubber goods, castings and machines.	North Tonawanda	13,498	Lumber products, silk goods, machinery.
Binghamton	53,608	Cigars, tobacco products, boots and shoes, metals, machinery.	Norwich	8,342	Chemical, railway repair shops, hosiery, and knit goods.
Buffalo	454,630	Meat-packing, castings and machines, flour, mill products, automobiles.	Ogdensburg	14,338	Silks, smoking pipes, house trim.
Canandaigua	7,501	Sheet iron work, canning and preserving.	Olean	17,925	Railway repairs, oils, leather, glass.
Cohoes	23,433	Cotton goods, woolen hosiery and knit goods, men's shirts and collars.	Oneida	9,461	Caskets, tobacco, hardware, furniture.
Corning	13,459	Glassware, silk goods, railway repairs, clay products.	Oneonta	10,474	Railroad repairs, men's clothing.
Cortland	12,367	Steel, cornets, and hardware.	Oswego	25,426	Engines, boilers, hosiery, knit goods, railway repairs.
Dunkirk	17,870	Locomotives, stoves, silk goods.	Plattsburg	10,134	Automobiles, men's shirts, collars, white goods, pulp, paper.
Elmira	40,093	Automobiles and parts, railway repair shops, printing and books.	Port Jervis	9,413	Railroad repairs, silk goods, silverware.
Fulton	11,138	Woolens, paper, firearms.	Poughkeepsie	32,714	Agricultural machinery, men's tailoring, cigars, other tobacco products.
Geneva	16,750	Optical goods, engines, stoves, cutlery, shirts, collars, paper, women's clothing.	Rensselaer	11,210	Railroad repairs, felt goods.
Glens Falls	16,323	Leather gloves and mittens.	Rochester	248,465	Clothing, boots, shoes, castings, machines, printing, flour.
Gloversville	21,178	Silk goods, railway repairs, house trim.	Rome	21,926	Metal goods, cottons, steel, furniture.
Hornell	14,352	Cement, hosiery, machinery.	Saratoga Springs	13,792	Silk goods, machinery; famous water-ing place.
Hudson	11,544	Printing, forgings, men's clothing.	Salamanca	8,370	Furniture, upholstery, leather, railroad repairs.
Ithaca	37,780	Furniture, upholstery, woolens, woads, metal furniture.	Schenectady	80,381	Electrical apparatus, locomotives.
Jamestown	10,687	Gloves, mittens, leather, furs.	Syracuse	145,293	Iron, steel, machinery, vehicles, clothing, shoes, pottery.
Johnstown	26,354	Cigars, other tobacco products, men's shirts, collars, white goods.	Tonawanda	9,147	Pulp, paper, pig iron, rolling mills, steel-works.
Lackawanna	15,737	Steel, railroad repairs.	Troy	75,488	Men's shirts, collars, white goods, steel-works, horseshoes.
Little Falls	13,022	Cottons, knit goods, leather, bicycles.	Utica	80,589	Textiles, metals, machinery, conveyances, foods, tobacco.
Lockport	18,693	Paper goods, printing, hardware, glass.	Watertown	26,895	Car wheels, railway equipment, machinery, pulp, paper.
Middletown	16,381	Railway repairs, white goods, leather.	Watervliet	14,990	Castings, cannons, railway repairs, shirts, collars.
Mount Vernon	37,583	Silverware, women's dresses and waists, machinery, bread.	White Plains	19,287	Center of trade, historical associations.
			Yonkers	90,948	Textiles, metals, machinery, conveyances, foods, tobacco.

INCORPORATED VILLAGES OF NEW YORK

(State Census of 1915)

Village	County	Popu- lation	Industries and Products	Village	County	Popu- lation	Industries and Products
Adams	Jefferson	1,571	Cruses, dairy products, canned goods	Dexter	Jefferson	1,115	Wool, paper
Addison	Steuben	1,754	Sticks, tobacco, house trim	Dabbs Ferry	Westchester	10,430	Mail factory
Akron	Erie	1,836	Buttons, gypsum, rubble	Dolgeville	Herkimer & Fulton	3,126	Pop. stone, granite, argonite
Albion	Orleans	5,988	Evaporated fruits, canned goods	Dundee	Orleans	1,246	Lumber, cotton, evaporated fruit
Alexandria Bay	Jefferson	2,062	Boats	East Aurora	Erie	3,445	Printing, farm machinery
Allegany	Cattaraugus	1,327	Canned goods	East Rochester	Monroe	3,471	Cars, pianos
Amityville	Suffolk	2,780	Residential and trade	East Rockaway	Nassau	1,607	Seaside resort
Allegany	Allegany	1,154	Silk, cutlery	East Syracuse	Onondaga	3,839	Silverware, railroad repairs
Angelica	Allegany	1,138	Railroad repairs	Ellenville	Ulster	3,073	Timber
Angola	Erie	1,134	Leather	Elmira Heights	Chemung	3,151	Cotton and knit goods, iron work
Antwerp	Jefferson	1,037	Printing, cheese	Elmsford	Westchester	1,480	Rubber seats
Arcade	Wyoming	1,568	Lasts, underwear	Endicott	Bronx	5,581	Shoes, leather, time re- corders
Athens	Greene	1,925	Bricks, ships	Fairport	Monroe	3,556	Sheet iron, canning, cans
Attica	Wyoming	2,013	Paper boxes, boiler stokers	Falconer	Chautauque	2,312	Woolens, worsteds, articles of wool
Avoca	Steuben	1,083	Wheels, hroms, spools	Farmingdale	Nassau	1,856	Pietone, frames, enameled ware
Avon	Livingston	2,430	Car repairs, fruit preserving	Fayetteville	Onondaga	1,779	Furniture, upholstery, gloves
Babylon	Suffolk	3,100	Whips, cranes, woodwork	Floral Park	Nassau	1,771	Printing
Bainbridge	Chemung	1,201	Separators, rasps	Fonda	Montgomery	1,120	Brooms, glove and shoe linings
Baldwinsville	Onondaga	3,220	Pumping machines, wagon springs	Fort Edward	Washington	3,692	Pulp, paper, shirts
Ballston Spa	Saratoga	4,344	Leather, castings, paper	Fort Plain	Montgomery	2,923	Cotton goods, hosiery, furni- ture
Bath	Steuben	4,173	Harness, ladders, bathing suits	Frankfort	Herkimer	4,213	Machinery, tools
Belmont	Allegany	1,031	Manufactures and trade	Franklinville	Cattaraugus	2,065	Cutlery, canning
Bolivar	Allegany	1,260	Manufactures and trade	Fredonia	Chautauque	5,328	Canning, veneer, macaroni
Boonville	Oneida	1,901	Chairs, silk	Freeport	Nassau	7,463	Boat fittings
Brewster	Putnam	1,402	Condensed milk, railroad repairs	Friendship	Allegany	1,199	Stoves, trim
Briarcliff Manor	Westchester	1,221	Laundering	Geneese	Livingston	2,253	Canning
Brookport	Monroe	3,368	Shoes, pianos, canned goods	Goshen	Orange	3,511	Pipe fittings, cigars
Brocton	Chautauque	1,292	Railroad center	Gouverneur	St. Lawrence	4,164	Cut stone, lace curtains
Bronxville	Westchester	2,240	Leather, electrical control- lers	Granville	Cattaraugus & Erie	2,524	Leather, glue, murlage
Caledonia	Livingston	1,241	Perfumers, tags, labels	Greene	Washington	3,890	Knit goods, gloves
Cambridge	Washington	1,727	Flours, seeds, shirts	Green Island	Chenango	1,272	Furniture, iron castings
Camden	Oneida	2,181	Furniture, knit goods	Greenport	Albany	4,533	Engines, boilers, laundering
Canajoharie	Montgomery	2,474	Groceries, bags	Greenwich	Suffolk	3,745	Brick, terra cotta, fire-slay
Canastota	Madison	3,849	Canned goods, cut glass	Groton	Washington	2,315	Hosiery, knit goods, linens
Canisteo	Steuben	2,314	Silk, leather, tables	Hamburg	Tompkins	1,445	Typewriters, machinery
Canton	St. Lawrence	2,624	Boxes	Hamburg	Erie	2,744	Canning, bottles, sheet metal
Cape Vincent	Jefferson	1,102	Tanning center	Hamilton	Madison	1,586	Canning, knit goods
Carthage	Jefferson	3,871	Machinery, furniture	Hannondsport	Steuben	1,560	Cycles, aeroplanes, wine
Castleton	Rensselaer	1,583	Piano actions, paper board	Hancock	Delaware	1,456	Cut glass, excelsior
Catskill	Greene	5,371	Hosiery, knit goods, clay products	Hastings-on-Hudson	Westchester	5,161	Knit goods
Cattaraugus	Cattaraugus	1,276	Dairy machines, wood nov- elties	Haverstraw	Rockland	5,418	Brick, terra cotta, silks
Cazenovia	Madison	1,928	Canning, printing presses	Hempstead	Nassau	6,073	Car repairing, trim
Edarhurst	Nassau	2,547	Manufactures and trade	Herkimer	Herkimer	9,577	Office furniture, cotton goods, hosiery
Champlain	Clinton	1,279	Bookbinding	Highland Falls	Orange	2,518	Manufacturers, trade
Charlotte	Monroe	2,302	Pig iron	Hillburn	Rockland	1,017	Car wheels, railroad axleboxes
Chateaugay	Franklin	1,196	Paper, milk	Holley	Orleans	1,780	Canned goods
Chatham	Columbia	2,389	Shirts	Home	Cortland	2,871	Shirts, garments
Chester	Orange	1,280	Cheese	Honeoye Falls	Monroe	1,258	Preserved fruits, furniture
Chittenango	Madison	1,074	Canned vegetables	Hoosick Falls	Rensselaer	5,406	Farm machinery, knit goods, shirts, collars
Clayton	Jefferson	1,879	Sash, door trim	Horseheads	Chemung	1,949	Brick, hardware, optical goods
Clifton Springs	Ontario	1,664	Pumps, leather goods; cele- brated sanitarium	Hudson Falls	Washington	5,585	Paper goods, machinery, shirts, lumber
Clinton	Oneida	1,264	Canned goods, sweetens	Ilion	Herkimer	8,900	Typewriters, firearms, office furniture
Clyde	Wayne	2,699	Canned goods, glassware	Irvington	Westchester	2,379	Structural iron, paper boxes
Cobleskill	Sehoharie	2,362	Railroad center	Jordan	Onondaga	1,063	Local trade
Cooperstown	Otsego	2,631	Printing, milk products	Keeseville	Clinton & Essex	1,795	Horse-shoe nails, shirts
Corinth	Saratoga	2,415	Pulp, paper, shirts	Kennore	Erie	1,700	Residential and trade
Cornwall-on-Hudson	Orange	2,240	House trim	Lake Placid	Essex	1,977	Summer resort
Coxsackie	Greene	2,390	Beass valves, monuments				
Croton	Westchester	2,243	Brick, boats, tubing				
Cuba	Allegany	1,045	Flour, feed, pulleys				
Danville	Livingston	1,018	Felt goods, books, cooking and heating apparatus				
Delhi	Delaware	1,743	Dairy products				
Depew	Erie	4,932	Railroad supplies, cars, elec- trical apparatus				
Deposit	Broome & Delaware	1,779	Condensed milk, glass trim				

INCORPORATED VILLAGES OF NEW YORK—Continued

Village	County	Population	Industries and Products	Village	County	Population	Industries and Products
Lancaster	Erie	5,094	Iron castings, edge tools, brick.	Philmont	Columbia	2,090	Hosiery and knit goods.
Larchmont	Westchester	2,060	Residential.	Phoenix	Oswego	1,655	Paper, silk winding.
La Salle	Niagara	2,402	Residential and trade.	Piermont	Rockland	1,481	Paper board.
Lawrence	Nassau	1,870	Cabinet work.	Pittsford	Moore	1,376	Evaporated apples.
Le Roy	Genesee	4,084	Groceries, cotton goods, salt, medicines.	Pleasantville	Westchester	2,464	Residential.
Lestershire	Broome	5,400	Shoes, cameras, felt goods.	Port Byron	Cayuga	1,115	Boats, mince meat.
Liberty	Sullivan	2,395	Health resort.	Port Chester	Westchester	15,129	Hardware, sheets, pillow cases.
Little Valley	Cattaraugus	1,307	Cutlery.	Port Henry	Essex	2,584	Pig iron.
Liverpool	Onondaga	1,591	Residential and trade.	Potsdam	St. Lawrence	4,157	Hair brushes, paper.
Lowville	Lewis	3,244	Furniture, caskets, machinery.	Pulaski	Oswego	1,860	Cabinet work, tables.
Lynbrook	Nassau	3,055	Residential.	Randolph	Cattaraugus	1,341	Evaporated apples, eider, condensed milk, furniture.
Lyons	Wayne	4,742	Pickling, silk gloves, canning.	Ravena	Albany	1,700	Railway repair shops.
Macedon	Wayne	1,147	Evaporated apples.	Rhinebeck	Dutchess	1,580	Residential.
Malone	Franklin	7,404	Men's clothing, paper, railway way repairs.	Richfield Springs	Otsego	1,623	Knit goods, trim.
Mamaronock	Westchester	7,290	Rubber coats and tissue.	Rockville Center	Nassau	5,223	Gloves, ice.
Manchester	Ontario	1,115	Engine repairing.	Rouses Point	Clinton	1,783	Electrotyping, lumber.
Manlius	Onondaga	1,304	Iron castings, canning.	Rye	Westchester	5,339	Residential.
Marathon	Cortland	1,006	Road machines, leather.	Sag Harbor	Suffolk	3,245	Jewelry, silverware.
Massena	St. Lawrence	4,614	Aluminum goods.	St. Johnsville	Montgomery	7,005	Knit goods, player pianos, organs.
Mayville	Chautauqua	1,201	Furniture.	Salem	Washington	1,096	Shirts, collars.
Mechanicville	Saratoga	8,208	Paper, clay products, cotton goods.	Saranac Lake	Essex & Franklin	4,918	Printing, trim.
Medina	Orleans	6,079	Furniture, upholstery, canning, hardware.	Saratoga Springs	Saratoga	12,864	Silk gloves, machinery, mineral waters.
Mexico	Oswego	1,474	Canned goods.	Saugerties	Ulster	4,490	Paper goods.
Middleburg	Schoharie	1,059	Residential.	Scarsdale	Westchester	2,717	Residential.
Middleport	Niagara	1,427	Preserved fruits, lumber.	Schoharie	Schoharie	1,124	Crushed and cut stone.
Millbrook	Dutchess	1,252	Residential.	Schuylerville	Saratoga	1,711	Silk gloves, knit goods.
Minerva	Nassau	2,318	Electricity, embroidery.	Scotia	Schenectady	3,790	Residential.
Mohawk	Herkimer	2,577	Hosiery, knit goods.	Sea Cliff	Nassau	1,981	Seaside resort.
Mohroe	Orange	1,519	Pipe fittings, cheese.	Seneca Falls	Seneca	7,018	Pumps, engines, boilers, machinery.
Monticello	Sullivan	2,132	Leather, silk gloves.	Sherburne	Chenango	1,016	Cotton yarn, knit goods.
Montour Falls	Schuyler	1,281	Electric cranes, hardware, bridges.	Shortsville	Ontario	1,228	Wheels, carriages, wagons, ensilage cutters.
Moravia	Cayuga	1,393	Barrel heads, evaporated apples.	Sidney	Delaware	2,641	Silk gloves and linings, articles of wood.
Mt. Kisco	Westchester	2,902	House trim.	Silver Creek	Chautauqua	3,220	Machinery, canned goods, furniture.
Mt. Morris	Livingston	3,884	Canning, cans, seedling machines.	Skanateles	Onondaga	1,768	Paper, cigars.
Naples	Ontario	1,138	Evaporated apples.	Sloan	Erie	2,202	Railway repairs, fertilizers.
Newark	Wayne	6,468	Paper goods, canning, furniture.	Solvay	Onondaga	5,886	Soda, chemicals, coke products, castings.
New Berlin	Chenango	1,131	Dress silks, condensed milk.	Southampton	Suffolk	3,092	Summer resort.
New Hartford	Oneida	1,459	Hosiery, knit goods, paper.	South Glens Falls	Saratoga	2,106	Paper, lumber, waists, dresses.
New Paltz	Ulster	1,261	Brick.	South Nyack	Rockland	1,950	Residential.
North Collins	Erie	1,068	Brick.	Spring Valley	Rockland	2,808	Silks, pipes, raincoats.
North Pelham	Westchester	1,874	Printing and books.	Springville	Erie	2,688	Canning, cutlery, condensed milk.
Northport	Suffolk	2,527	Summer resort.	Stamford	Delaware & Schoharie	1,060	Picturesque village.
North Tarrytown	Westchester	4,877	Automobiles and parts.	Stillwater	Saratoga	1,041	Collars, leather board.
Northville	Fulton	1,635	Glass, lumber.	Suffern	Rockland	2,781	Jewels, perfumery.
Norwood	St. Lawrence	1,879	Pulp and paper.	Tarrytown	Westchester	5,752	Carpet and egg beaters, children's dresses.
Nunda	Livingston	1,140	Concrete mixers, caskets.	Theresa	Jefferson	1,053	Residential.
Nyack	Rockland	4,291	Shoes, sewing machines.	Ticonderoga	Essex	2,754	Pulp, paper, graphite, shirts.
Oakfield	Genesee	1,307	Flaster, beans, canning.	Tivoli	Dutchess	1,080	Residential, trade.
Ossining	Westchester	10,326	Printing, porous plasters, wire.	Trumansburg	Tompkins	1,181	Foods, silks.
Owego	Tioga	4,570	Silk gloves, cycles, wagons, mica chimneys.	Tuckahoe	Westchester	2,753	Rubber coats, concrete, stone.
Oxford	Chenango	1,594	Milk, baskets, skirts.	Tupper Lake	Franklin	3,910	Barrel staves, saw-mill products.
Painted Post	Steuben	1,319	Air compressors, bridges.	Undilla	Otsego	1,125	Silos, cigars.
Palmyra	Wayne	2,469	Rubber goods, valve packing.	Union	Broome	1,922	Carriage forgings.
Patchogue	Suffolk	4,506	Laces, curtains, bouse trim.	Valatie	Columbia	1,410	Hosiery, knit goods.
Pawling	Dutchess	1,050	Milk.	Victor	Ontario	1,051	Porcelain insulators, canning.
Peekskill	Westchester	15,502	Stoves, hats, women's clothing.	Walden	Orange	5,196	Cutlery, men's clothing.
Pelham Manor	Westchester	1,115	Residential.	Walton	Delaware	3,606	Knit goods, wool novelties, evaporated milk.
Penn Yan	Yates	4,725	Fruit baskets, wrapping paper, shoes.	Wappingers Falls	Dutchess	3,742	Clock finishing, overalls.
Perry	Wyoming	5,009	Knit goods, cutlery.	Warsaw	Wyoming	3,424	Hosiery, knit goods, buttons.
Phelps	Ontario	1,375	Canning, preserving, grain drills.				

INCORPORATED VILLAGES OF NEW YORK

Continued

Village	County	Population	Industry and Products
Warwick	Orange	2,505	Railway repairs
Waterford	Saratoga	3,047	Hoosery, knit goods, dyeing and finishing cloth
Waterloo	Seneca	1,313	Woodens, wares, sash
Waterville	Oneida	1,564	Canning, hoosery
Watkins	Schuyler	2,760	Salt, crates, baskets
Waverly	Tioga	5,119	Furniture, gloves
Wayland	St. Regis	4,039	Chairs, silk, canning
Webster	Madison	1,130	Evaporated fruits, baskets
Woodsport	Cayuga	1,448	Women's clothing
Wellsville	Allegany	4,595	Engines, boilers, furniture, oaks, machinery
West Carthage	Jefferson	1,787	Paper, map-sticks
Westfield	Chautauque	3,419	Cider, vinegar, grape juice
West Haverstraw	Rockland	2,130	Re-sidental, trade
Whitehall	Washington	4,669	Silk spinning, railroad repairs, lumber
Whitesboro	Oneida	2,493	Hoosery, knit goods, desks, office furniture
Williamsville	Erie	1,272	Gelatine
Wolcott	Wayne	1,346	Canning, preserving
Yorkville	Oneida	1,086	Implement and tools

FARM PRODUCTS OF NEW YORK

Continued

Products	AMOUNT	VALUE
Apples (1915)	8,528,000 lbs.	\$6,560,000
Flowers and plants (1910)		5,119,000
Buckwheat (1915)	4,420,000 lbs.	4,256,000
Grapes (1910)	253,000,000 lbs.	3,062,000
Hops (1910)	8,567,000 lbs.	3,470,000
Butter (1910)	123,301,000 lbs.	3,107,000
All berries (1910)	31,000,000 lbs.	2,876,000
Nursery products (1910)	2,505,000 plants	2,640,000
Rye (1915)	2,207,000 bush.	2,010,000
Barley (1915)	2,207,000 bush.	1,418,000
Pears (1910)	1,313,000 lbs.	1,164,000
Wool (1910)	1,236,000 lbs.	967,000
Maple syrup (1910)	593,000 gals.	960,000
Cream (1910)	1,307,000 gals.	960,000
Cider and vinegar (1910)	5,000,000 bush.	545,000
Cheerries (1910)	272,000 lbs.	119,000
Plums (1910)	55,000 lbs.	592,000
Tobacco (1915)	5,280,000 lbs.	375,000
Honey (1910)	3,192,000 lbs.	331,000
Maple sugar (1910)	3,160,000 lbs.	250,000
Dried fruits (1910)	4,386,000 lbs.	135,000
Quinces (1910)	333,000 lbs.	100,000
Wine and grape juice (1910)	347,000 bush.	75,000
Nuts (1910)		59,000
Beet-sugar (1910)	11,000 bush.	27,000
Cheese (1910)	331,000 lbs.	27,000
Total		\$318,580,000

INDIAN RESERVATIONS AND POPULATION

RESERVATION	COUNTY	POPULATION 1914
Allegany	Cattaraugus	842
Cattaraugus	Cattaraugus	1,313
Onondaga	Onondaga	546
Shanoneok	Suffolk	143
Shospatuck	Suffolk	18
St. Regis	Franklin	1,086
Tawawanda	Genesee	455
Toiwawanda	Erie	58
Towawanda	Niagara	Pop. not given
Tuscarora	Niagara	394
Total Indians in state		4,845

FARM PRODUCTS OF NEW YORK

(From the latest statistics obtainable.)

Products	AMOUNT	VALUE
Hay (1915)	5,850,000 tons	\$91,845,000
Milk (1910)	521,280,000 gals.	60,790,000
Onions (1915)	51,277,000 lbs.	21,122,000
Corn (1915)	21,200,000 bush.	18,878,000
Potatoes (1915)	22,073,000 bush.	18,418,000
Eggs (1910)	77,000,000 doz.	17,052,000
Vegetables (1910)		16,000,000
Wheat (1915)	17,000,000 bush.	9,818,000
Poultry (1910)	10,981,000 birds	8,011,000
Prawns (1915)	2,100,000 lbs.	8,195,000

MINERAL PRODUCTION OF NEW YORK IN 1914

Products	QUANTITY	VALUE
Portland cement	5,667,728 lbs.	\$2,088,377
Building brick	943,241 M	1,705,295
Salt	10,890,072 lbs.	2,835,706
Natural gas	8,714,981 cu. ft.	2,576,165
Clay		2,103,676
Other clay products		2,066,218
Iron ore	751,716 tons	2,567,517
Sand and gravel		2,212,087
Expansive	931,511 cu. yds.	1,773,071
Sandstone	513,091 cu. yds.	1,247,401
Trap		1,056,990
Mineral waters	8,180,669 gals.	791,690
Talcs	71,075 cu. tons	707,286
Granite		667,252
Pyrite	61,913 tons	289,939
Marble		26,212
Gypsum	2,183,109 lbs.	171,144
Garnet	1,026 cu. tons	131,949
Feldspar and quartz	2,473 cu. tons	107,000
Natural sodium	2,206 1/2 lbs.	13,117
Sand-lime (1915)	17,606 M	11,629
Mastic cement	4,521 cu. yds.	887,500
Roofing slate	1,008,000 sq. yds.	4,000
Onida clay	7,079 cu. yds.	12,443
Manganese		12,433
Sand (1910)	1,082 cu. yds.	9,000
Bones	500 tons	50,000
Other materials (marl, asphalt, mica)		58,000
Total value		\$82,870,000

SOME USEFUL BOOKS OF REFERENCE

BARDEEN. A Brief Geography of the Empire State.
 BRIGHAM. From Trail to Railway.
 The Geography of New York.
 CARPENTER. North America.
 DAVIS. West From a Car Window.
 GEORGE. Relations of Geography and History.
 HENDRICK. A Brief History of the Empire State.
 HERBERTSON. Man and His Work.

LOVERING. Stories of New York.
 MILLER & DAVIS. Geography of New York City.
 NIVER. Geography of New York City.
 PRENTICE. History of New York State.
 ROBERTS. New York (2 vols.).
 TARR. The Physical Geography of New York.
 TODD. A Brief History of the City of New York.
 YOUNG. Civil Government of New York.

STATISTICS OF COUNTIES

Counties	Area Sq. Miles	Population 1915	County Seat	Farm Property Value 1910	Farm Crops Value 1910	Farm Animals Value 1910	Dairy Products Value 1910
Albany	528	183,330	Albany	\$17,742,896	\$3,151,902	\$2,183,382	\$721,280
Allegany	1,018	40,216	Belmont	26,071,862	3,060,324	4,371,584	1,184,645
Bronx	41	615,600	New York City				
Broomfield	696	90,641	Binghamton	16,638,994	2,451,382	2,697,610	1,602,869
Cattaraugus	1,330	72,756	Little Valley	30,276,650	4,182,033	4,900,006	2,678,930
Cayuga	722	65,751	Auburn	26,915,448	4,752,628	3,920,238	1,295,343
Chautauque	1,062	116,818	Mayville	43,738,499	7,015,172	5,296,830	2,697,464
Chemung	394	59,017	Elmira	10,288,587	1,527,270	1,240,654	2,975,681
Chemung	847	36,648	Norwich	20,912,660	3,308,963	4,374,459	545,202
Ciutau	1,041	47,561	Plattsburg	18,116,645	2,889,428	2,690,444	888,545
Columbia	647	44,111	Hudson	19,819,369	3,411,089	2,320,681	783,802
Cortland	486	30,074	Cortland	13,171,013	2,225,408	2,646,209	1,595,671
Delaware	1,561	45,965	Delhi	27,714,855	4,626,106	5,410,527	4,762,996
Dutchess	800	91,044	Poughkeepsie	32,965,740	4,354,576	5,335,878	2,131,838
Erie	1,040	571,897	Buffalo	65,806,599	7,200,459	7,200,459	2,403,204
Essex	1,834	32,461	Elizabethtown	11,029,202	1,464,798	1,445,735	355,303
Franklin	1,717	46,181	Malone	17,751,227	2,964,160	2,683,209	1,174,737
Fulton	466	45,625	Johnstown	6,808,265	1,200,891	1,079,537	437,818
Genesee	484	40,707	Batavia	25,044,508	3,970,161	2,915,162	652,135
Greene	644	30,991	Catskill	14,544,994	2,207,795	1,724,176	746,294
Hamilton	1,747	4,491	Lake Pleasant	1,200,927	1,200,927	360,649	360,699
Herkimer	1,426	64,109	Herkimer	19,607,700	2,847,042	3,651,865	2,199,633
Jefferson	1,252	81,009	Watertown	40,095,831	5,691,706	6,065,445	3,368,052
Kings	77	1,798,513	Brooklyn	4,605,506	518,632	51,418	18,705
Lewis	1,265	25,947	Lowville	16,288,674	2,885,393	3,080,385	1,663,908
Lewis	635	38,427	Genesee	28,696,858	4,830,161	3,465,228	852,790
Livingston	649	41,742	Wampsville	26,891,960	3,986,117	4,224,075	2,275,039
Madison	643	319,510	Rochester	59,764,618	9,349,960	4,663,352	1,899,181
Monroe	643	319,510	Rochester	15,460,547	2,673,527	4,663,352	1,269,769
Montgomery	399	61,030	Fonda	43,189,302	2,541,508	957,237	177,563
Nassau	252	116,825	New York City	4,575,032	184,420	79,411	50,480
New York	63	2,137,747	Lockport	39,665,809	6,497,062	3,334,662	553,713
Niagara	522	108,550	Utica	38,437,991	5,887,675	6,277,666	3,622,287
Onida	1,180	167,331	Utica	37,291,043	5,715,757	5,115,166	2,123,637
Onondaga	794	213,992	Syracuse	32,593,635	6,082,895	3,549,862	463,630
Ontario	652	54,628	Canandaigua	32,516,309	3,909,009	4,654,754	3,570,647
Orange	819	118,118	Goshen	35,516,309	3,909,009	4,654,754	3,570,647
Orleans	396	33,919	Albion	20,551,582	5,040,374	2,581,228	236,625
Oswego	974	75,929	Oswego	23,804,151	3,709,543	4,156,892	1,950,838
Otsego	978	48,534	Cooperstown	20,618,419	4,962,408	4,852,883	2,826,725
Putnam	239	12,767	Cornua	8,851,342	726,150	882,208	573,898
Queens	129	396,727	Jamaica	29,554,662	2,444,835	596,375	293,747
Rensselaer	664	121,330	Troy	18,216,934	3,237,677	2,554,452	1,252,398
Richmond	57	98,634	Richmond	3,730,574	420,623	131,465	128,785
Rockland	180	46,503	New City	11,194,649	745,487	471,499	161,552
St. Lawrence	2,810	90,291	Canton	49,975,175	7,211,750	8,400,288	4,491,072
Saratoga	830	62,982	Ballston Spa	19,960,106	2,531,122	2,634,756	787,410
Schenectady	210	98,625	Schenectady	7,219,478	1,029,178	1,383,040	255,598
Schoharie	648	23,005	Schenectady	14,454,132	3,265,620	2,405,760	1,443,765
Schuyler	339	13,054	Watkins	9,263,801	1,586,607	1,155,878	228,262
Seneca	328	25,249	Watloo	14,589,014	2,542,732	1,650,816	274,300
St. Lawrence	1,401	83,630	Bath	37,369,543	6,037,866	4,960,256	1,455,994
Suffolk	918	104,342	Riverhead	35,337,021	3,681,470	1,408,470	320,171
Sullivan	967	38,189	Monticello	1,909,630	1,909,630	1,949,637	770,830
Tioga	518	25,549	Owego	11,085,489	1,787,652	2,015,657	885,689
Tomkins	477	36,535	Ithaca	14,808,795	2,568,033	1,691,575	774,753
Ulster	1,128	85,367	Kingston	29,439,672	4,103,589	2,749,096	1,111,721
Warren	895	32,977	Lake George	6,586,380	921,432	743,824	216,502
Washington	797	46,965	White Plains	18,459,934	3,279,161	3,058,970	1,367,254
Wayne	624	53,476	Lyons	34,814,902	6,006,024	3,548,521	942,330
Westchester	450	321,713	White Plains	65,156,044	2,460,830	1,856,083	809,865
Wyoming	603	33,028	Warsaw	23,178,376	3,949,947	3,308,504	1,368,403
Yates	348	18,841	Penn Yan	15,576,703	2,582,578	1,589,913	192,714
Total State	50,326	9,687,744		\$1,451,481,495	\$209,168,936	\$174,560,658	\$77,807,161

STATISTICS OF LEADING MANUFACTURES FOR 1914

Advance report of Census Bureau

INDUSTRIES	NUMBER OF FACTORIES	NUMBER OF EMPLOYERS	WAGES PAID	VALUE OF PRODUCTS	INDUSTRIES	NUMBER OF FACTORIES	NUMBER OF EMPLOYERS	WAGES PAID	VALUE OF PRODUCTS
Clothing, women's	5,835	108,491	\$64,128,000	\$315,716,000	Lumber and wood	6	8	\$78,000	\$16,000,000
Pressing and finishing	1,806	64,029	49,008,000	257,209,000	Floors and leathers	369	5,119	3,297,000	16,450,000
Clothing, men's	2,827	81,370	43,666,000	238,627,000	Textile finishing	99	5,111	2,912,000	16,300,000
Foundry and machine-shop products	1,093	66,690	47,032,000	173,130,000	Bags	74	700	1,212,000	15,710,000
Meat-packing	457	6,641	4,914,000	118,106,000	Paper goods	113	1,600	2,613,000	15,382,000
Bakery products	4,249	27,002	17,641,000	109,228,000	Cordage	17	407	3,083,000	14,960,000
Tobacco	2,871	30,189	14,132,000	88,080,000	Agricultural machinery	50	8,962	9,028,000	14,777,000
Liquors	165	10,036	8,869,000	87,368,000	Shoemaking	207	4,251	3,971,000	14,105,000
Hosiery and knit goods	484	40,095	17,814,000	78,229,000	Marble and stone	551	4,798	4,111,000	13,321,000
Flour and mill products	801	3,070	1,997,000	77,409,000	Gloves and mittens	216	6,628	1,007,000	12,851,000
Electrical machinery	215	23,738	16,187,000	73,945,000	Malt	25	57	1,000,000	12,481,000
Lace and millinery	1,308	26,121	12,890,000	72,329,000	Typewriters	61	1,146	2,001,000	12,252,000
Boots and shoes	309	27,267	15,712,000	71,414,000	Lighting fixtures	183	4,501	2,813,000	11,247,000
Lumber products	1,776	21,703	12,832,000	59,718,000	Hats and caps	293	3,187	2,613,000	10,916,000
Pulp and paper	450	13,570	8,557,000	56,336,000	House furnishings	114	2,753	1,311,000	10,908,000
Iron and steel	71	14,990	10,711,000	55,912,000	Sundrugs and refining	17	416	213,000	10,264,000
Gas	131	10,090	5,927,000	52,816,000	Rubber goods	45	3,933	1,887,000	10,223,000
Furniture and refrigerators	758	52,153	13,711,000	49,849,000	Straw hats	76	3,158	1,857,000	10,182,000
Cars and R. R. repairs	172	27,750	19,907,000	48,164,000	Fancy goods	278	3,576	1,791,000	9,946,000
Furnishing goods	346	17,495	8,091,000	45,386,000	Mineral waters	612	2,397	1,099,000	9,039,000
Copper, tin, and iron (sheet)	791	16,040	9,801,000	44,822,000	Vehicles	691	3,911	2,711,000	8,752,000
Dairy products	1,144	3,235	2,029,000	43,262,000	Clay products	189	7,194	3,992,000	8,290,000
Chemicals	70	7,780	5,380,000	42,877,000	Battous	224	2,223	2,251,000	7,821,000
Autos and parts	247	12,122	8,988,000	42,115,000	Tools and cutlery	150	4,857	2,881,000	7,505,000
Medicines	806	5,059	2,977,000	41,796,000	Chocolate and coness	13	810	480,000	7,412,000
Leather, tanned	98	5,360	2,935,000	36,018,000	Cooperage	356	2,326	1,383,000	7,450,000
Photographic apparatus	59	7,126	4,762,000	35,171,000	Dental goods	40	866	564,000	7,143,000
Confectionery	319	10,768	4,426,000	34,070,000	Silversware	59	2,080	1,825,000	6,875,000
Musical instruments	106	12,602	7,967,000	33,072,000	Conant	12	2,283	1,610,000	6,840,000
Food preparations	287	4,031	2,132,000	32,166,000	Supplies for dairies, poultry, and bee farms	33	2,046	1,279,000	6,760,000
Paint and varnish	150	3,450	2,282,000	31,881,000	Hats, fur and felt	39	3,563	1,854,000	6,677,000
Coffee and spices	136	1,690	987,000	31,675,000	Stoves and furnaces	47	3,051	2,146,000	6,093,000
Fur goods	877	5,964	4,343,000	30,312,000	Beds and mattresses	196	1,996	1,192,000	6,497,000
Silk goods	143	11,650	4,967,000	29,261,000	Caskets	60	2,879	1,215,000	6,291,000
Soap	65	3,168	1,785,000	27,526,000	Dyes	23	647	450,000	6,226,000
Carpets and rugs	14	12,540	5,667,000	26,076,000	Wire	6	1,384	788,000	5,779,000
Canning and preserving	987	8,757	3,801,000	25,945,000	Optical goods	70	2,988	1,824,000	5,692,000
Brass, bronze and copper	228	6,627	4,051,000	23,967,000	Signs	272	2,392	1,179,000	5,662,000
Jewelry	566	5,051	3,872,000	21,810,000	Groceries	41	1,027	812,000	5,518,000
Leather goods	615	7,473	4,200,000	21,797,000	Clocks and watches	32	2,236	1,250,000	5,416,000
Boxes	331	14,192	5,750,000	21,692,000	Instruments (see)	88	2,243	1,457,000	5,368,000
Woolens, worsteds, felt goods	51	8,552	4,176,000	21,068,000	Metal and solder	26	325	163,000	5,320,000
Cotton goods	51	9,127	4,240,000	18,465,000	Wall plaster	29	1,628	993,000	5,247,000
					Fountain pens	31	740	490,000	5,169,000
					Glass	22	3,080	2,158,000	5,157,000
					Shades and fixtures	106	1,066	529,000	5,099,000
					Total	48,203	1,057,837	\$631,012,000	\$3,811,461,000

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